49th ANNUAL MEETING OF THE PANCREAS CLUB

May 15-16, 2015 • Washington, DC
Welcome to the 49th Annual Meeting of the Pancreas Club at the Washington Court Hotel in Washington, DC. The Mission of the Pancreas Club, since its founding in 1966, is to promote the interchange of ideas between pancreatologists throughout the world and to maintain an informal “club” atmosphere.

The Pancreas Club is pleased to continue an expanded two full-day program with the annual dinner taking place on Saturday evening. Once again, we received over 200 abstracts which were reviewed by the Program Committee. We know that you will be fully engaged in both listening to the excellent presentations and in the discussions which follow. Posters of Distinctions will be presented by authors and addressed by leading faculty during the Poster Rounds with Professors. Authors will also be available postersonside during the several Poster Sessions.

This meeting will offer Continuing Medical Education Credits through a joint providership with the American College of Surgeons. We thank them for their support of this important meeting. We hope this provides a benefit to your CME needs and appreciate your support of this meeting.

The abstracts selected for oral and poster presentation are included in this program book and are also available on our website at www.pancreasclub.com.

It is my great pleasure to welcome you to the 49th Annual Meeting of the Pancreas Club held at the Washington Court Hotel in Washington, DC. It seems that every year the scientific program becomes more impressive and this year is no exception. The quality of the presentations is simply outstanding and I think that you will find this year’s program to be one of the top series of presentations on pancreatology among all meetings you may have attended. I hope that you will also have the opportunity to enjoy the Washington DC/Baltimore Region – home to our nation’s capital, interesting historic sites, world-renowned museums, the Chesapeake Bay, great shopping and top restaurants. The potential activities for you and your family are too numerous to list. Of course there are well-known sites such as the National Mall, The Smithsonian, The National Zoo and The Baltimore Aquarium. However there are countless less well-known activities such as the National Museum of Crime and Punishment, The International Spy Museum and Kenilworth Aquatic Gardens. It will be baseball season – so consider taking in an Oriole’s or Nationals’ game. For a more detailed list of activities visit the visitor’s website for Washington DC (washington.org) and Baltimore (baltimore.org).

Enjoy the meeting, the city and associating with old and new friends. Thank you for your participation and support of the Pancreas Club. Please do not hesitate to contact me or seek me out at the meeting if I can be of any assistance to you during your stay in Washington DC.

Warm Regards,
Christopher Wolfgang, MD
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MEETING LOCATION
Washington Court Hotel
525 New Jersey Avenue, NW
Washington DC 20001
PHONE: 202-628-2100

MEETING HOURS

REGISTRATION
Lower Lobby Foyer
Thursday, May 14, 2015 • 6:00 pm – 8:00 pm
Friday, May 15, 2015 • 6:30 am – 5:30 pm
Saturday, May 16, 2015 • 6:45 am – 5:00 pm

SCIENTIFIC SESSIONS
Grand Ballroom with Posters in Executive Room
Friday, May 15, 2015 • 7:45 am – 4:30 pm
Saturday, May 16, 2015 • 8:00 am – 5:00 pm

EXHIBITS
Ballroom Foyer
Friday, May 15, 2015
9:30 am – 6:00 pm Exhibits Open
9:30 am – 9:45 am Refreshment Break in Exhibit Area
2:45 pm – 3:00 pm Refreshment Break in Exhibit Area
4:30 pm – 6:00 pm Welcome Reception
Saturday, May 16, 2015
9:30 am – 4:00 pm Exhibits Open
9:45 am – 10:00 am Refreshment Break in Exhibit Area
3:15 pm – 3:30 pm Refreshment Break in Exhibit Area

GENERAL BUSINESS MEETING
Grand Ballroom
Saturday, May 16, 2015 • 5:00 pm – 5:30 pm

ANNUAL DINNER/RECEPTION & AWARDS
Capitol Room & Atrium Ballroom
Saturday, May 16, 2015 • 5:30 pm – 9:00 pm
CONTINUING MEDICAL EDUCATION

MEETING/LEARNING OBJECTIVES
At the conclusion of this meeting, participants will be able to:
• Identify different approaches to managing pancreatic necrosis
• Recognize patterns of necrosis and preferred approach
• Develop knowledge of current interventional status
• Discuss the surgical management strategy of pancreatic neuroendocrine tumors.
• Selecting patients for operation with side-branch IPMN
• Discuss minimally invasive approach to pancreatic surgical disease
• Discuss the most current strategies to optimize perioperative outcomes
• Be familiar with recent basic science advances in the understanding of pancreatic cancer

ACCREDITATION STATEMENT
This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint providership of the American College of Surgeons and The Pancreas Club. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA CATEGORY 1 CREDITS™
The American College of Surgeons designates this live activity for a maximum of 13.0 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

PROGRAM COMMITTEE MEMBERS
William Nealon, MD, Chair
Marshall Baker, MD
Michael Farnell, MD
Cristina Ferrone, MD
Jason Fleming, MD
Katherine Morgan, MD
William Traverso, MD
Mark Truty, MD
Christopher Wolfgang, MD
Nicholas Zyromski, MD
In accordance with the ACCME Accreditation Criteria, the American College of Surgeons, as the accredited provider of this activity, must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. Therefore, it is mandatory that both the program planning committee and speakers complete disclosure forms. Members of the program committee were required to disclose all financial relationships and speakers were required to disclose any financial relationship as it pertains to the content of the presentations. The ACCME defines a ‘commercial interest’ as “any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients”. It does not consider providers of clinical service directly to patients to be commercial interests. The ACCME considers “relevant” financial relationships as financial transactions (in any amount) that may create a conflict of interest and occur within the 12 months preceding the time that the individual is being asked to assume a role controlling content of the educational activity.

ACS is also required, through our joint providership partners, to manage any reported conflict and eliminate the potential for bias during the activity. All program committee members and speakers were contacted and the conflicts listed below have been managed to our satisfaction. However, if you perceive a bias during a session, please report the circumstances on the session evaluation form.

Please note we have advised the speakers that it is their responsibility to disclose at the start of their presentation if they will be describing the use of a device, product, or drug that is not FDA approved or the off-label use of an approved device, product, or drug or unapproved usage.

The requirement for disclosure is not intended to imply any impropriety of such relationships, but simply to identify such relationships through full disclosure and to allow the audience to form its own judgments regarding the presentation.
## ACCREDITATION & DISCLOSURE INFORMATION

### DISCLOSURES

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<th>SPEAKERS/MODERATORS/CHAIRS/DISCUSSEANTS</th>
<th>NOTHING TO DISCLOSE</th>
<th>DISCLOSURE (As it pertains to the content of the presentation)</th>
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<tr>
<td>Horacio Asbun, MD</td>
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<td>Boston Scientific Corp – Honorarium: Consultant</td>
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<td>Claudio Bassi</td>
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<td>Olympus America – Honorarium: Education</td>
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<td>Ross Carter</td>
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<td>Gregory Cote</td>
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<td>Laureano Fernandez-Cruz</td>
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<td>Jin-Young Jang</td>
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<td>Tobias Keck</td>
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<td>Kim Kirkwood</td>
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<td>Kyoichi Takaori</td>
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<td>Keita Wada</td>
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### PLANNING COMMITTEE

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<td>Christopher Wolfgang</td>
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<td>Nicholas Zyromski</td>
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* Indicates also moderator/faculty
MEETING ROOMS

SCIENTIFIC SESSIONS: Grand Ballroom
POSTERS: Executive Room
REGISTRATION: Lower Level Lobby
EXHIBITS: Grand Ballroom Foyer

THURSDAY, MAY 14, 2015

6:00 pm – 8:00 pm  Registration  Lower Level Lobby
6:30 pm – 8:00 pm  Advisory Committee Meeting/Dinner  Capitol

FRIDAY, MAY 15, 2015

6:00 am – 9:00 am  Poster Setup  Executive Room
6:30 am – 5:30 pm  Registration  Lower Level Lobby
7:00 am – 7:45 am  Continental Breakfast  Lower Lobby
7:45 am – 8:00 am  Welcome & Introductory Remarks  Grand Ballroom
8:00 am – 9:30 am  SCIENTIFIC SESSION I: PNET/Prognostics  Grand Ballroom
9:30 am – 9:45 am  Break with Exhibitors & Poster Viewing
9:45 am – 11:00 am  SCIENTIFIC SESSION II: IPMN/Access to Care  Grand Ballroom
11:00 am – 12:00 pm  Poster Rounds with Professors  Executive Room
12:00 pm – 1:00 pm  Lunch  Madison/Montpelier/Springwood
Free lunch for all attendees
1:00 pm – 2:45 pm  SCIENTIFIC SESSION III: Surgical Techniques  Grand Ballroom
2:45 pm – 3:00 pm  Break with Exhibitors & Poster Viewing
3:00 pm – 4:30 pm  SCIENTIFIC SESSION IV: Pancreatitis  Grand Ballroom
4:30 pm – 6:00 pm  Welcome Reception & Posters Viewing  Lower Lobby

Schedule-at-a-Glance
SATURDAY, MAY 16, 2015

6:45 am – 5:00 pm  Registration  Lower Level Lobby
7:00 am – 8:00 am  Continental Breakfast  Lower Lobby
8:00 am – 9:45 am  SCIENTIFIC SESSION V:
Basic Science studies in Pancreatic Cancer  Grand Ballroom
9:30 am – 4:00 pm  Exhibits Open  Grand Ballroom Foyer
9:45 am – 10:00 am  Break with Exhibitors & Poster Viewing
10:00 am – 11:00 am  HOW I DO IT SESSION:
Minimally Invasive Management of Pancreatic Necrosis
MODERATORS: Nicholas Zyromski, MD, William Nealon, MD
& William Traverso, MD  Grand Ballroom
11:00 am – 12:00 pm  Poster Rounds with Professors  Executive Room
12:00 pm – 1:00 pm  Lunch  Madison/Montpelier/Springwood
Free lunch for all attendees
1:00 pm – 3:15 pm  SCIENTIFIC SESSION VI:
Perioperative Outcomes  Grand Ballroom
3:15 pm – 3:30 pm  Break with Exhibitors & Poster Viewing
3:30 pm – 5:00 pm  SCIENTIFIC SESSION VII:
Neo-adjuvant Treatment and Borderline Resectable Pancreatic Cancer  Grand Ballroom
5:00 pm – 5:30 pm  Pancreas Club Brief Business Meeting  Grand Ballroom
5:30 pm – 9:00 pm  Pancreas Club Annual Reception & Dinner  Capitol Room & Atrium Ballroom

The Pancreas Club will recognize three outstanding presentations. They will be awarded during the closing, Saturday dinner:

PanCan Research Award: $1,000 for the best oral presentation of pancreatic cancer research by a resident or fellow. This award is generously funded by the Pancreatic Cancer Action Network.

Kenneth Warren/Pancreas Club Research Award: $1,000 for the best oral presentation of clinical or basic science pancreatitis by a resident or fellow. This award is generously funded by the Pancreas Club and the Kenneth Warren Foundation.

John Howard Research Award: $1,000 for the best presentation from young junior faculty, who is within 5 years of their end of residency. This award is generously funded by the Arpa Foundation.
CLAUDIO BASSI, MD

Professor of Surgery, Chairman of The Department of Surgery and Oncology B, Head of the Pancreas Institute

PRESENTED BY: L. William Traverso, MD, St. Luke’s Hospital, Boise ID

For his many contributions to pancreatology and pancreatic surgery we will honor Professor Claudio Bassi at this year’s Annual Pancreas Club Dinner. Claudio is Professor of Surgery and Chairman of the Department of Surgery and Oncology and Head of the Pancreas Institute at the University of Verona. He has been an avid member of the Pancreas Club for decades and we have enjoyed his regular presentations of Verona pancreatic outcomes by himself or through his residents and fellows.

According to Pub Med he has authored 416 journal articles but one of his most admirable talents is his ability to organize consensus among other pancreatic research stations throughout the world. Three of many examples are the 1.) Randomized multicenter trials on antibiotics in necrotizing pancreatitis (SG&O 1993), 2.) The International Study Group of Pancreatic Surgery grading systems of pancreatic fistula (Surgery 2005), and 3.) Secretary of the European Pancreatic Cancer Study Group (ESPAC).

In addition he is a wonderful husband, father, and grandfather plus he is also a man of music – we might have a glimpse of the Professor and his guitar at dinner.

Please join us to honor Claudio Bassi in Washington DC’s Annual Pancreas Club dinner.

PAST ANNUAL DINNER HONOREES

2014  L. William Traverso, MD
2012  Howard Reber, MD
2011  Edward Bradley, III, MD
2010  Hans Beger
2009  Prof. Seiki Matsuno
2008  Andy Warshaw, MD
2007  Charles Frederick Frey, MD
2005  John M. Howard, MD
2004  John Cameron, MD and Fujio Hanyu, MD
EDUCATIONAL GRANT SUPPORT

The Pancreas Club would like to recognize and thank the following companies for their support through educational grants:

PLATINUM

AbbVie
ChiRhoClin, Inc.
Covidien, LP
Digestive Care, Inc.

GOLD

Celgene Corporation

SILVER

NewLink Genetics

BRONZE

AngioDynamics
Ethicon
Interpace Diagnostics

EXHIBITORS

AbbVie
1 North Waukegan Road, North Chicago, IL 60064

AbbVie is a global, research-based biopharmaceutical company which combines the focus of a leading-edge biotech with the expertise and structure of a long-established pharmaceutical leader. AbbVie is committed to using unique approaches to innovation to develop and market advanced therapies that address some of the world’s most complex and serious diseases.

AngioDynamics
14 Plaza Drive, Latham, NY 12110
PHONE: 518-795-1400  |  WEB: www.angiodynamics.com

AngioDynamics Inc. is a leading provider of innovative, minimally invasive medical devices used by professional healthcare providers for vascular access, surgery, peripheral vascular disease and oncology. AngioDynamics’ diverse product lines include market-leading ablation systems, fluid management systems, vascular access products, angiographic products and accessories, angioplasty products, drainage products, thrombolytic products and venous products.
SUPPORTERS & EXHIBITORS

Celgene Corporation
86 Morris Avenue, Summit, NJ 07901
PHONE: 908-673-2361 | WEB: www.celgene.com

Celgene Corporation (Nasdaq: CELG) is a global biopharmaceutical company that is helping healthcare providers turn incurable cancers into chronic, manageable diseases through innovative therapies. This dedication goes hand-in-hand with industry-leading patient support and access programs.

ChiRhoClin, Inc.
4000 Blackburn Lane, Suite 270, Burtonsville, MD 20866
PHONE: 301-476-8388 | WEB: www.chirhoclin.com

ChiRhoClin, Inc. is the manufacturer of Secretin products. Its mission is to develop orphan drug products that diagnose gastrointestinal diseases. ChiRhoStim® (Human Secretin) is approved for Pancreatic Function Testing, Facilitating Cannulation during ERCP’s, and Gastrinoma Testing. Finally, you can improve your MRCP images with Secretin-enhanced MRCP or use EUS combined with Secretin to perform an EUS pancreatic function test.

Covidien, LP
555 Long Wharf Drive, New Haven, CT 06511
PHONE: 203-821-4758 | WEB: www.covidien.com

Covidien is a leading global healthcare company that creates innovative surgical solutions for better patient outcomes and delivers value through clinical leadership and excellence.

Digestive Care, Inc.
1120 Win Drive, Bethlehem, PA 18017
PHONE: 610-882-5950 | WEB: www.digestivecare.com

Digestive Care, Inc. (DCI) is dedicated to developing unique pharmaceutical products to alleviate complications and symptoms of gastrointestinal disorders. DCI’s flagship product, Pertzye® (pancrelipase) is a unique formulation of enteric-coated microspheres containing pancreatic enzymes buffered with bicarbonate, designed to simulate normal pancreatic function and create a pH microenvironment for optimized biological activity of the enzymes at the site of release.

Interpace Diagnostics
300 Interpace Parkway, Bldg. A, Parsippany, NJ 07054
PHONE: 800-495-9885 | WEB: www.interpacediagnostics.com

Interpace Diagnostics provides full product commercialization and is working to develop and commercialize molecular diagnostic tests leveraging the latest technology and personalized medicine for better patient diagnosis and management. Our mission is to improve patient care through personalized medicine and molecular diagnostic tests supported by rigorous science.
KARL STORZ Endoscopy-America, Inc.
2151 East Grand Avenue, El Segundo, CA  90245
PHONE: 424-218-8000 | WEB: www.karlstorz.com

KARL STORZ, an industry leader for over 70 years, offers solutions for surgical procedures. Our exclusive VITOM® exoscope technologies increase ergonomics for surgeons and support training and documentation. And, our 3 mm Mini-Laparoscopy Instrument Set in a standard 36 cm length offers an alternative to single-site procedures while minimizing scarring.

Vector Surgical
20975 Swenson Drive, Suite 430, Waukesha, WI  53186
PHONE: 262-798-7970 | WEB: www.vectorsurgical.com

Vector Surgical offers unique medical devices that improve outcomes in cancer surgery. MarginMarker® is a sterile ink kit used by the surgeon to clearly and completely mark excised tissue margins in the OR. Using MarginMarker helps to ensure that tissue margins are interpreted consistently from surgical excision to pathology analysis.

AWARDS SUPPORT

• **Pancreatic Cancer Action Network**
  In support of PanCan Research Award

• **Kenneth Warren Foundation**
  In support of Kenneth Warren/Pancreas Club Research Award

• **The Pancreas Club**
  In support of Kenneth Warren/Pancreas Club Research Award

• **Arpa Foundation**
  In support of John Howard Research Award
### SCIENTIFIC PROGRAM

**FRIDAY, MAY 15, 2015**

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<th>Time</th>
<th>Event</th>
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<tr>
<td>6:30 am – 5:30 pm</td>
<td>Registration</td>
<td>Lower Level Lobby</td>
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<td>7:00 am – 7:45 am</td>
<td>Continental Breakfast</td>
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<td>7:45 am – 8:00 am</td>
<td>Welcome &amp; Introductory Remarks</td>
<td>Grand Ballroom</td>
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<td>William H. Nealon, MD, Yale University Medical Center, New Haven, CT</td>
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<td>William Traverso, MD, St. Luke’s Hospital, Boise, ID</td>
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<td>Michael Farnell, MD, Mayo Clinic, Rochester, MN</td>
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<td>8:00 am – 9:30 am</td>
<td>SCIENTIFIC SESSION I: SCIENTIFIC SESSION</td>
<td>Grand Ballroom</td>
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<td>MODERATORS: Kim Kirkwood, MD &amp; Jin-Young Jang, MD</td>
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<td>S001 OPERATIVE VS. NON-OPERATIVE MANAGEMENT OF NONFUNCTIONING PANCREATIC NEUROENDOCRINE TUMORS – Irene Y Zhang (Long)</td>
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<td>S002 LONG-TERM OUTCOMES OF SURGICAL MANAGEMENT OF PANCREATIC NEUROENDOCRINE TUMORS WITH SYNCHRONOUS LIVER METASTASES – Stefano Crippa (Long)</td>
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<td>S003 TRENDS IN HOSPITAL VOLUME AND FAILURE TO RESCUE FOR PANCREATIC SURGERY – Neda Amini (Short)</td>
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<td>S004 HLA CLASS I EXPRESSION AS A FAVORABLE PROGNOSTIC BIOMARKER IN PANCREATIC DUCTAL ADENOCARCINOMA (PDAC) – Vincenzo Villani (Long)</td>
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<td>S005 A PROPOSAL FOR IMPROVED STAGING OF PANCREATIC DUCTAL ADENOCARCINOMA AFTER PANCREATICDUODENECTOMY – Fabio Bagante (Long)</td>
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<td>S006 PROPOSAL OF A NEW STAGING SYSTEM FOR AMPULLA OF VATER CANCER WITH HIGHER DISTINCTION ABILITY; MULTINATIONAL STUDY FROM EASTERN AND WESTERN – Mee Joo Kang (Long)</td>
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<td>S007 PARA-AORTIC LYMPH NODES METASTASES FROM DUCTAL ADENOCARCINOMA OF THE PANCREAS: DO THEY REALLY MAKE A DIFFERENCE? – Salvatore Paiella (Short)</td>
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<td>S008 LONG TERM SURVIVAL IN SURGICALLY RESECTED PANCREATIC CANCER: CHARACTERISTICS OF 10 YEAR SURVIVORS USING THE NATIONAL CANCER DATABASE – Alessandro Paniccia (Short)</td>
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<td>9:30 am – 6:00 pm</td>
<td>Exhibits Open</td>
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<td>9:30 am – 9:45 am</td>
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SCIENTIFIC PROGRAM

9:45 am – 11:00 am  SCIENTIFIC SESSION II: IPMN/Access to Care  Grand Ballroom

MODERATORS: Christopher Wolfgang, MD & Claudio Bassi, MD

S009 INTERNATIONAL MULTICENTER STUDY TO CHARACTERIZE THE INDIVIDUAL RISK OF MALIGNANCY IN BRANCH DUCT IPMN AND PROPOSAL OF NOMOGRAM – Jin-Young Jang (Long)

S010 THE RISK OF MALIGNANCY IN 1,712 PATIENTS RESECTED FOR INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS (IPMN) OF THE PANCREAS: A REPORT FROM THE PANCREATIC SURGICAL CONSORTIUM – Neda Rezaee (Long)

S011 TUMOR-ASSOCIATED NEUTROPHILS AND MALIGNANT PROGRESSION IN INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS: AN OPPORTUNITY FOR IDENTIFICATION OF HIGH-RISK DISEASE – Eran Sadot (Long)

S012 THE NATURAL HISTORY OF NON-RESECTED IPMN OF THE PANCREAS: A SINGLE INSTITUTION EXPERIENCE – Marco Del Chiario (Short)

S013 THE IMPACT OF RURACITY AND ACCESS TO GASTROENTEROLOGISTS ON DISPARITIES IN PANCREAS CANCER STAGING AND MORTALITY – Sabha Ganai (Long)

S014 ADHERENCE TO EXPECTED TREATMENT FOR PANCREATIC CANCER IMPROVES OUTCOMES – Jennifer Miller, MD (Short)

S015 TRENDS IN RECEIPT AND TIMING OF MULTIMODALITY THERAPY IN EARLY STAGE PANCREATIC CANCER – Nina P Tamirisa, MD MS (Short)

11:00 am – 12:00 pm   Poster Rounds with Professors  Executive Room

PROFESSORS: Nicholas Zyromski, MD & Marshall Baker, MD

See page 20 for list of posters. First 10 Posters marked with ★: Authors will be by their posters to discuss their research poster presentations and Professor will lead short Q&A.

12:00 pm – 1:00 pm   Lunch  Madison/Montpelier/Springwood

Free lunch for all attendees

1:00 pm – 2:45 pm   SCIENTIFIC SESSION III: Surgical Techniques  Grand Ballroom

MODERATORS: Horacio Asbun, MD & Laureano Fernandez-Cruz, MD

S016 PANCREATOGASTROSTOMY VERSUS PANCREATOJEJUNOSTOMY FOR RECONSTRUCTION AFTER PANCREATODUODENECTOMY (RECOPANC) - RESULTS OF A MULTICENTER RANDOMIZED CONTROLLED TRIAL – T Keck (Long)
S017 RANDOMIZED CLINICAL TRIAL OF DUCT-TO-MUCOSA PANCREATICOGASTROSTOMY OF PANCREATIC STUMP VERSUS HAND-SEWN CLOSURE AFTER DISTAL PANCREATECTOMY – Kenichiro Uemura (Short)

S018 DISTAL PANCREATECTOMY WITH CELIAC AXIS RESECTION: WHAT ARE THE ADDED RISKS? – Joal D Beane (Long)

S019 EARLY NATIONAL EXPERIENCE WITH LAPAROSCOPIC PANCREATICODUODENECTOMY (LPD) FOR DUCTAL ADENOCARCINOMA (PDCA): A COMPARISON OF LPD AND OPEN PANCREATICODUODENECTOMY (OPD) FROM THE NATIONAL CANCER DATA BASE – Susan M Sharpe (Long)

S020 PROSPECTIVE TRIAL OF 200 CONSECUTIVE PANCREATICO-DUODENECTOMIES WITH THE FINNISH BINDING PANCREATICOJEJUNOSTOMY (FBPJ): A LOW FREQUENCY OF PANCREATIC FISTULA – Johanna Laukkarinen (Short)

S021 MESOPANCREATIC TUMOR STROMAL-NEGATIVE RESECTION DEFINES RADICAL RESECTION OF PANCREATIC HEAD CANCER AND CAN BE PREDICTED BY PREOPERATIVE RADIOLOGIC PARAMETERS – U F Wellner (Long)

S022 LEAKAGE OF AN INVAGINATION PANCREATICOJEJUNOSTOMY MAY HAVE LETHAL CONSEQUENCES – Henry A Pitt, MD (Short)

S023 LONG TERM ONCOLOGIC OUTCOMES AFTER ROBOTIC RESECTIONS ARE NOT INFERIOR TO OPEN FOR PANCREAS CANCER – Mark Girgis (Long)

S024 AFTER PANCREATECTOMY EPIDURAL DYSFUNCTION INCREASES POSTOPERATIVE COMPLICATIONS – Motokazu Sugimoto, MD (Short)

S025 LYMPHADENECTOMY FOR PERIAMPULLARY CANCER: PROGNOSTIC ROLE OF DIFFERENT METASTATIC NODAL STATIONS AND OF THE NUMBER OF METASTATIC LYMPH NODES – Gennaro Nappo (Short)

2:45 pm – 3:00 pm Break with Exhibitors & Poster Viewing

3:00 pm – 4:30 pm SCIENTIFIC SESSION IV: Pancreatitis Grand Ballroom

MODERATORS: Cristina Ferrone, MD & Tobias Keck, MD

S026 QUALITY OF LIFE TRENDS IN PATIENTS UNDERGOING SURGERY FOR CHRONIC PANCREATITIS – Shruthi HS Reddy (Long)

S027 TIMING OF CHOLECYSTECTOMY AFTER MILD BILIARY PANCREATITIS: A RANDOMISED CONTROLLED MULTICENTER TRIAL – N.j. Schepers (Long)

S028 TOTAL PANCREATECTOMY AND ISLET CELL AUTOTRANSPLANTATION AS SALVAGE THERAPY FOR PATIENTS FAILING PREVIOUS SURGICAL INTERVENTIONS FOR CHRONIC PANCREATITIS – Gregory C Wilson (Long)

S029 EARLY NASOENTERIC VERSUS ON DEMAND FEEDING IN PREDICTED SEVERE ACUTE PANCREATITIS: A MULTICENTER RANDOMIZED CONTROLLED TRIAL – Marc G Besselink (Long)
SCIENTIFIC PROGRAM

S030 MISCHARACTERIZATION OF PANCREATIC NECROSECTOMY IN ACS-NSQIP – Thuy B Tran (Long)

S031 COMPARISON BETWEEN KI-67 LABELLING INDEX ON EUS-GUIDED FINE-NEEDLE ASPIRATION AND RELATIVE SURGICAL SPECIMEN AFTER CURATIVE SURGERY: A SINGLE CENTER EXPERIENCE OF 49 CONSECUTIVE CASES – Filippo Scopelliti (Short)

4:30 pm – 6:00 pm Welcome Reception & Posters Viewing Lower Lobby

SATURDAY, MAY 16, 2015

6:45 am – 5:00 pm Registration Lower Level Lobby
7:00 am – 8:00 am Continental Breakfast Lower Lobby
8:00 am – 9:45 am SCIENTIFIC SESSION V: Basic Science Studies in Pancreatic Cancer Grand Ballroom

MODERATORS: Nicholas Zyromski, MD & Keita Wada, MD

S032 CDK4/6 INHIBITORS ARE POTENT SUPPRESSORS OF PANCREATIC CARCINOMA GROWTH – Agnieszka K Witkiewicz, MD (Long)

S033 A NOVEL PARP INHIBITOR RESISTANCE MECHANISM MEDIATED BY THE RNA-BINDING PROTEIN HUR – Saswati N Chand (Long)

S034 PHARMACOLOGICAL INHIBITION OF BET BROMODOMAINS SUPPRESSES TUMOR GROWTH AND PROLONGS SURVIVAL IN A PRECLINICAL MODEL OF PANCREATIC CANCER – A Nakagawa (Long)

S035 VERY LONG-TERM SURVIVAL FOLLOWING RESECTION FOR PANCREATIC CANCER IS NOT EXPLAINED BY COMMON GENETIC ALTERATIONS: RESULTS OF WHOLE-EXOME SEQUENCING ANALYSIS – M Dal Molin (Long)

S036 A NOVEL IMMUNOCOMPETENT MURINE MODEL OF PANCREATIC CANCER WITH ROBUST STROMA: A VALUABLE TOOL FOR PRE-CLINICAL EVALUATION OF NEW THERAPIES – Kaustav Majumder (Long)

S037 TARGETING TUMOR-ASSOCIATED HYPOXIA TO OVERCOME CHEMORESISTANCE IN PANCREATIC DUCTAL ADENOCARCINOMA (PDA) – Fernando F Blanco (Long)

S038 ANTI-TGF-BETA ANTIBODY INHIBITS TREG PATHWAY AND INDUCES ANTI TUMOR EFECTOR T CELL RESPONSES IN A VACCINE-DEPENDENT MANNER – Kevin C Soares (Short)

S039 COPY NUMBER VARIATION IN CELL FREE DNA IN PANCREATIC CANCER PATIENTS UNDERGOING NEOADJUVANT THERAPY – S Tsai, MD MHS (Short)
9:30 am – 4:00 pm  Exhibits Open  Grand Ballroom Foyer
9:45 am – 10:00 am  Break with Exhibitors & Poster Viewing
10:00 am – 11:00 am  HOW I DO IT SESSION  Grand Ballroom
Minimally Invasive Management of Pancreatic necrosis
MODERATORS: Nicholas Zyromski, MD, William Nealon, MD & William Traverso, MD

Minimally invasive methods of managing pancreatic necrosis are in evolution. This session highlights expert international clinicians surgical and medical approach to necrotizing pancreatitis, followed by case presentations with panel and audience discussion.

At the conclusion of this session, participants will be able to:
- Identify different approaches to managing pancreatic necrosis
- Recognize patterns of necrosis and the preferred approach
- Develop knowledge of current interventional status

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<th>PRESENTATION TITLE</th>
<th>FACULTY NAME</th>
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<tr>
<td>Surgical Transgastric Debridement</td>
<td>Ross Carter, MD</td>
<td>7 min.</td>
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<td>Endoscopic Transgastric Debridement</td>
<td>Gregory Cote, MD</td>
<td>7 min.</td>
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<tr>
<td>Percutaneous and Retroperitoneal Debridement</td>
<td>Marc Besselink, MD</td>
<td>7 min.</td>
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<tr>
<td>Cases &amp; Discussion</td>
<td>Nicholas Zyromski, MD</td>
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<td>&amp; William Nealon, MD</td>
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11:00 am – 12:00 pm  Poster Rounds with Professors  Executive Room
PROFESSORS: Christopher Wolfgang, MD & Victor Zaydfudim, MD
See page 31 for list of posters. First 10 Posters marked with ★: Authors will be by their posters to discuss their research poster presentations and Professor will lead short Q&A.

12:00 pm – 1:00 pm  Lunch  Madison/Montpelier/Springwood
Free lunch for all attendees

1:00 pm – 3:15 pm  SCIENTIFIC SESSION VI:  Grand Ballroom
Perioperative Outcomes
MODERATORS: William Nealon, MD & Ross Carter, MD

S040 CHARACTERISTICS AND NATURAL HISTORY OF CHYLE LEAK FOLLOWING PANCREATECTOMY – Lindsey L Manos (Long)
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<td>MORTALITY FOLLOWING PANCREATODUODENECTOMY: THE INFLUENCE OF FISTULA RISK</td>
<td>Matthew T McMillan</td>
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<td>S042</td>
<td>DRAIN MANAGEMENT FOLLOWING PANCREATODUODENECTOMY: REAPPRAISAL OF A PROSPECTIVE RANDOMIZED TRIAL USING RISK STRATIFICATION</td>
<td>Charles M Vollmer</td>
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<td>S043</td>
<td>CLINICAL RISK SCORE TO PREDICT PANCREATIC FISTULA AFTER PANCREATODUODENECTOMY: INDEPENDENT EXTERNAL VALIDATION FOR OPEN AND LAPAROSCOPIC APPROACHES</td>
<td>Christopher R Shubert</td>
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<td>S044</td>
<td>PROSPECTIVE SCORING OF ALL ADVERSE EVENTS WITHIN 90 DAYS: THE STANDARD FOR REPORTING SURGICAL OUTCOMES AFTER PANCREATECTOMY</td>
<td>Morgan Bruno</td>
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<td>S045</td>
<td>DISCORDANCE BETWEEN PERIOPERATIVE ANTIBIOTIC TREATMENT AND WOUND INFECTION CULTURES IN PATIENTS UNDERGOING PANCREATICODUODENECTOMY: A MULTICENTER 5-YEAR STUDY</td>
<td>Zhi Ven Fong</td>
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<td>S046</td>
<td>A NOVEL RISK SCORING SYSTEM RELIABLY PREDICTS READMISSION FOLLOWING PANCREATECTOMY</td>
<td>Vicente Valero III</td>
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<td>S047</td>
<td>THE RESULTS OF TWO RANDOMIZED CLINICAL TRIALS TO REDUCE DELAYED GASTRIC EMPTYING AFTER PANCREATICODUODENECTOMY</td>
<td>Manabu Kawai</td>
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<td>S048</td>
<td>PANCREATICOJEJUNOSTOMY STRUCTURE AFTER PANCREATODUODENECTOMY: OUTCOMES AFTER OPERATIVE REVISION</td>
<td>Jessica L Cioffi</td>
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<td>S049</td>
<td>NATURAL HISTORY OF THE PANCREATIC REMNANT AFTER RESECTION OF IPMN: PRELIMINARY RESULTS FROM A MULTI-INSTITUTIONAL INTERNATIONAL STUDY</td>
<td>Marco Del Chiaro</td>
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<td>S050</td>
<td>A CONTEMPORARY EVALUATION OF THE CAUSE OF DEATH AND LONG-TERM QUALITY OF LIFE AFTER TOTAL PANCREATECTOMY</td>
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<td>S051</td>
<td>METABOLIC EFFECT OF PANCREATODUODENECTOMY: IN COMPARISON WITH DISTAL PANCREATECTOMY</td>
<td>Mee Joo Kang</td>
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3:15 pm – 3:30 pm  Break with Exhibitors & Poster Viewing
3:30 pm – 5:00 pm  SCIENTIFIC SESSION VII: Neo-adjuvant Treatment and Borderline Resectable Pancreatic Cancer

MODERATORS: Michael Farnell, MD & Kyoichi Takaori, MD

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<tr>
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<td>S052</td>
<td>NEOADJUVANT CHEMORADIATION FOR T4 PANCREATIC ADENOCARCINOMA: A GEMCITABINE, DOCETAXEL, AND CAPECITABINE PROTOCOL OFFERS SUPERIOR OUTCOMES</td>
<td>John A Chabot</td>
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Scientific Program 18
S053 THE ROLE OF NEOADJUVANT STEREOTACTIC BODY RADIATION THERAPY IN BORDERLINE RESECTABLE AND LOCALLY ADVANCED PANCREATIC CANCER – Lauren M Rosati (Short)

S054 PERI-OPERATIVE OUTCOMES FOLLOWING PANCREATECTOMY WITH CONCOMITANT ARTERIAL PROCEDURES – May C Tee (Long)

S055 PANCREATECTOMY PLUS RESECTION OF PERIPANCREATIC VESSELS: IMPACT OF POST-OPERATIVE COMPLICATIONS ON LONG-TERM SURVIVAL – Emanuele Federico Kauffmann (Short)

S056 IMPORTANCE OF PREOPERATIVE CA 19-9 LEVELS IN PATIENTS WITH LOCALIZED PANCREATIC CANCER TREATED WITH NEOADJUVANT THERAPY – Ashley Krepline (Long)

S057 IMPACT OF CHEMORADIOThERAPY FOLLOWED BY SURGERY FOR LOCALLY ADVANCED PANCREATIC ADENOCARCINOMA – COMPARISON OF CLINICOPATHOLOGICAL FEATURES BETWEEN SINGLE-AGENT GEMCITABINE AND S-1/GEMCITABINE COMBINATION THERAPY - Masashi Kishiwada (Short)

S058 NEOADJUVANT THERAPY WITH ANATOMICAL BORDERLINE PANCREATECTIC DUCTAL ADENOCARCINOMA. DOES IT MAKE DIFFERENCE? – Ahmed M Zaki (Short)

S059 SURVIVAL OUTCOMES OF PATIENTS WITH RESECTABLE PANCREATIC CANCER RECEIVING NEOADJUVANT THERAPY – Kathleen K Christians (Long)

S060 A TALE OF TWO CITIES: RECONSIDERING ADJUVANT RADIATION IN PANCREATIC CANCER CARE – S W de Geus (Short)

S061 TIMING OF STAGING DIAGNOSTIC LAPAROSCOPY PRIOR TO NEOADJUVANT THERAPY IN PATIENTS STRATIFIED ACCORDING TO AHPBA/SSO/SSAT CONSENSUS DEFINITIONS OF RESECTABILITY – Raphael J Louie (Short)

5:00 pm – 5:30 pm  Pancreas Club Brief Business Meeting  Grand Ballroom
5:30 pm – 9:00 pm  Pancreas Club Annual Reception & Dinner  Capitol Room & Atrium Ballroom

DINNER HONOREE: Claudio Bassi, MD
See page 8 for details
Presentation of three $1,000 awards
(2 for resident/fellow; 1 for junior faculty)
Closing Remarks
The ★ symbol indicates Poster of Distinction and they will be identified on the poster board by GOLD dot. Authors will be available for short Q&A during the Poster Rounds with Professors.

All posters will be located in Executive Room.

Complete Poster Abstract descriptions are available online at http://pancreasclub.com/annualmeeting/abstracts

FRIDAY, MAY 15, 2015

★ P001 A PROSPECTIVE RANDOMIZED DOUBLE BLIND PLACEBO CONTROLLED TRIAL ON THE EFFICACY OF ETHANOL CELIAC PLEXUS NEUROLYSIS (ECPN) IN PATIENTS WITH OPERABLE PANCREATIC AND PERIAMPUTAL ADENOCARCINOMA (PPA)
Harish Lavu, MD 1, Harry B Lengel, BS 1, Naomi M Sell, BS 1, Joseph A Baiocco, BS 1, Eugene P Kennedy, MD 1, Theresa P Yeo, PhD 1, Sherry A Burrell, PhD 2, Jordan M Winter, MD 1, Sarah Hegarty, MPhil 1, Benjamin E Leiby, PhD 1, Charles J Yeo, MD 1; 1Thomas Jefferson University, 2Rutgers University, Philadelphia, US

★ P003 DEVELOPING A CORE SET OF PATIENT-REPORTED OUTCOMES IN PANCREATIC CANCER: A DELPHI SURVEY
Arja Gerritsen 1, Marc Jacobs 1, Inge Henselmans 1, Jons van Hattum 1, Geert-Jan Creemers 2, Ignace de Hingh 2, Miriam Koopman 3, Quintus Molenaar 3, Hanneke Wilmink 1, Olivier Busch 1, Marc Besselink 1, Hanneke van Laarhoven 1, For the Dutch Pancreatic Cancer Group 1; 1Academic Medical Center, Amsterdam, the Netherlands, 2Catharina Hospital, Eindhoven, the Netherlands, 3University Medical Center Utrecht, Utrecht, the Netherlands, Amsterdam, NL

★ P004 INITIATION OF AN ANESTHESIA PROTOCOL REDUCES INTRAOPERATIVE CRYSTALLOID AND BLOOD ADMINISTRATION DURING PANCREATICODUODENECTOMY: A SINGLE CENTER RETROSPECTIVE STUDY
Nathan Bolton, MD 1, William Conway, MD 1, Shoichiro Tanaka, MD 1, Kara Roncin, BS 2, James Hyatt 2, John Bolton, MD 1; 1Ochsner, 2Medical University of the Americas, New Orleans, US

★ P005 MICRORNA-21 EXPRESSION AND OUTCOME IN RESECTABLE PANCREATIC DUCTAL ADENOCARCINOMA - MULTICENTRE ANALYSIS
Nigel B Jamieson, MRCS, PhD 3, Asif Ali, MBChB 2, Elisa Giovannetti, MD, PhD 1, Karin A Oien, FRCPath, PhD 2, Fraser Duthie, FRCPath 2, Euan J Dickson, FRCS, MD 3, Ross Carter, FRCS, MD 3, Colin J McKay, MD, FRCS 3; 3West of Scotland Pancreatic Centre, 3Wohlson Wohl Cancer Research Centre, Institute of Cancer Sciences, MVLS, University of Glasgow, 1VU University Medical Center, Amsterdam, The Netherlands, Glasgow, GB

★ P006 THE EFFICACY OF NEOADJUVANT THERAPY FOLLOWED BY SURGICAL RESECTION FOR PATIENTS WITH BORDERLINE RESECTABLE PANCREATIC CANCER WITH ARTERY INVOLVEMENT
Hiroki Yamaue, Seiko Hirono, Manabu Kawai, Ken-ichi Okada, Motoki Miyazawa, Atushi Shimizu, Yuji Kitahata; Second Department of Surgery, Wakayama Medical University, Wakayama, JP
POSTER LISTINGS

★ P007 AFTERT NEOADJUVANT RADIATION THERAPY AN R1 RESECTION DOES NOT DECREASE SURVIVAL IN PANCREATIC DUCTAL ADENOCARCINOMA Shadi Razmadjou, MD, Bl Collins, C Fernandez-del Castillo, Ts Hong, Jy Wo, F Sabbatino, V Villani, D Dias Santos, AI Warshaw, Kd Lillemoe, Cr Ferrone; Massachusetts General Hospital, Cambridge, US

★ P008 LONG-TERM PATIENT-REPORTED SYMPTOMS AND QUALITY OF LIFE OUTCOMES ARE FAVORABLE FOLLOWING RESECTION OF PANCREATIC NEOPLASMS Hop S Tran Cao, MD, Maria Q Petzel, RD, Nathan H Parker, BS, Joe S Liles, MD, Michael Kim, MD, Jeffrey E Lee, MD, Thomas A Aloia, MD, Claudius Conrad, MD, Jean N Vauthey, MD, Jason B Fleming, MD, Matthew H Katz, MD; U.T. MD Anderson Cancer Center, Houston, US

★ P009 THE INCIDENCE AND MANAGEMENT OF DELAYED GASTRIC EMPTYING FOLLOWING PANCREATICODUODENECTOMY: A LARGE SINGLE-INSTITUTION ANALYSIS Joshua D Eisenberg, Janae A Romeo, Ernest L Rosato, MD, Harish Lavu, MD, Charles J Yeo, MD, Jordan M Winter, MD; Department of Surgery, Thomas Jefferson University Hospital, Philadelphia, US

★ P010 THE OLDEST-OLD AND HOSPITAL-LEVEL RESOURCE USE AFTER PANCREATICODUODENECTOMY AT HIGH VOLUME HOSPITALS Russell C Langan, MD, Chaoyi Zheng, MS, Katherine Harris, PhD, Richard Verstraete, RN, Waddah B Al-Refaie, MD, Lynt B Johnson, MD, MBA; Georgetown University Hospital, Washington, US

P011 MICRORNA-145 TARGETS MUC13 AND SUPPRESSES GROWTH AND INVASION OF PANCREATIC CANCER Sheema Khan, PhD1, Mara C Ebeling, BS2, Mohd S Zaman, PhD1, Mohammed Sikander, PhD1, Murali M Yallapu, PhD3, Ashley Yacoubian4, Stephen W Behrman, MD4, Nadeem Zafar, MD4, Deepak Kumar, PhD4, Paul A Thompson, PhD2, Meena Jaggi, PhD3, Subhash C Chauhan, PhD3; ¹Univ. of Tennessee, Dept. of Pharmaceutical Sciences, ²Sanford Research, Cancer Biology Research Center, ³University of Tennessee Health Science Center, ⁴Univ. of Tennessee, Dept. of Pathology, ⁵Univ. of Tennessee, Dept. of Surgery, ⁶Univ. of the District of Columbia, Dept. of Biological and Environmental Sciences, Memphis, US

P012 NICOTINE REDUCES SURVIVAL VIA AUGMENTATION OF PARACRINE HGF-MET SIGNALING IN THE PANCREATIC CANCER MICROENVIRONMENT Daniel Delitto MD, Dongyu Zhang, PhD, Song Han, PhD, Brian S Black, BS, Andrea E Knowlton, PhD, Adrian C Vlada, MD, George A Sarosi, MD, Kevin E Behrns, MD, Ryan M Thomas, MD, Xiaomin Lu, PhD, Chen Liu, MD, PhD, Thomas J George, MD, Steven J Hughes, MD, Shannon M Wallet, PhD, Jose G Trevino, MD; University of Florida, Gainesville, US

P013 TGFFS/EGFR CROSS-TALK MODULATES EMT PROCESS AND MIGRATION IN 3D TISSUE-ENGENEERED MODEL OF PANCREATIC DUCTAL ADENOCARCINOMA Niccola Funel, PhD1, Claudio Ricci, PhD1, Edwige Pugliesi, Dr2, Luca E Pollina, MD3, Fabio Caniglia, MD4, Serena Danti, Ing2, Ugo Boggi, Prof4, Daniela Campani, Prof4; ¹Department of Translational Research and New Technologies in Medicine and Surgery, ²Department of Surgical, Medical, Molecular Pathology and Emergency Medicine, University of Pisa, ³Division of Surgical Pathology, Hospital of Pisa, Italy, ⁴Division of General and Transplants Surgery, University of Pisa, Italy, Pisa, IT
P014 THE BIOLOGICAL BASIS OF HISTOPATHOLOGICALLY CONFIRMED PORTAL VENOUS INVASION IN PANCREATIC HEAD CANCER H Lapshyn, MD1, P Bronsert, MD2, D Bausch, MD3, F Makowiec, MD3, U A Wittel, MD3, M Werner, MD2, T Keck, MD1, U F Wellner, MD1; 1Clinic of Surgery, UKSH Campus Lübeck, Lübeck, Germany, 2Institute of Pathology, University Medical Center Freiburg, Freiburg, Germany, 3Clinic for General and Visceral Surgery, University Medical Center Freiburg, Freiburg, Germany, Lübeck, DE

P015 TUMOR VOLUME RATIO (VTR) CORRELATES WITH METASTATIC LIMPH NODE RATIO (LN) IN PANCREATIC DUCTAL ADENOCARCINOMA Niccola Funel, PhD1, Linda Barbarello, MD4, Luca E Pollina, MD2, Vittorio Perrone, MD4, Daniela Campani, Prof3, Ugo Boggi, Prof4; 1Department of Translational Medicine and Surgery, University of Pisa, 2Division of General and Transplants Surgery, University of Pisa, Italy, 3Division of Surgical Pathology, Hospital of Pisa, Italy, 4Division of Surgical Pathology, University of Pisa, Italy, Pisa, IT

P016 ACCURACY OF PREOPERATIVE IMAGING FOR VASCULAR INVOLVEMENT IN LOCALLY ADVANCED, BORDERLINE RESECTABLE PANCREATIC ADENOCARCINOMA FOLLOWING NEOADJUVANT CHEMOTHERAPY Jesse Clanton, J B Rose, Adnan Alseidi, Thomas Biehl, Scott Helton, Flavio Rocha; Virginia Mason Medical Center, Seattle, US

P017 AGE BIAS AND UNDER-TREATMENT IN OCTOGENARIANS WITH PANCREATIC CANCER Jonathan C King, MD, Jennifer Steve, BS, Mazen S Zenati, MD, MPH, PhD, Sharon B Winters, MS, CTR, David L Bartlett, MD, Amer Zureikat, MD, Herbert J Zeh III, MD, Melissa E Hogg, MD; UPMC Division of Surgical Oncology, Pittsburgh, US

P018 ANALYSIS OF GLYCEMIA IN PATIENTS UNDERGOING BYPASS SURGERY AND PANCREATODUODENECTOMY DUE TO ADENOCARCINOMA OF THE PANCREATIC HEAD Mariusz Seweryn, Katarzyna Kusnierz, MD, PhD, Aleksandra Kolarczyk-Haczyk, Weronika Bulska, Pawel Lampe, Professor, MD; Department of Gastrointestinal Surgery, Medical University of Silesia, Katowice Poland., Sosnowiec, PL

P019 CANCER OF THE DISTAL BILE DUCT - A MULTICENTER RETROSPECTIVE ANALYSIS G Seifert, MD1, S Zach, MD2, H Lapshyn, MD3, D Bausch, MD3, F Makowiec, MD3, U A Wittel, MD3, U T Hopt, MD3, T Keck, MD3, F Rückert, MD3, U F Wellner, MD3; 1Clinic for General and Visceral Surgery, University Medical Center Freiburg, Freiburg, Germany, 2Clinic of Surgery, University Medicine Mannheim, Mannheim, Germany, 3Clinic of Surgery, UKSH Campus Lübeck, Lübeck, Germany, Lübeck, DE

P020 CHARACTERISTIC OF THE OPERATIONS AND COMPLICATIONS IN PATIENTS WITH NEUROENDOCRINE TUMOR OF THE PANCREAS Mariusz Seweryn, Katarzyna Kusnierz, MD, PhD, Aleksandra Kolarczyk-Haczyk, Natalia Lampe, Pawel Lampe, Professor, MD; Department of Gastrointestinal Surgery, Medical University of Silesia, Katowice Poland., Sosnowiec, PL

P021 COMPARISON OF THE CLINICAL CASES OF PATIENTS UNDERGOING BYPASS SURGERY AND PANCREATODUODENECTOMY DUE TO PANCREATIC HEAD TUMOR Mariusz Seweryn, Katarzyna Kusnierz, MD, PhD, Aleksandra Kolarczyk-Haczyk, Weronika Bulska, Pawel Lampe, Professor, MD; Department of Gastrointestinal Surgery, Medical University of Silesia, Katowice Poland., Sosnowiec, PL
P022 COMPLIANCE WITH SENDAI CRITERIA: A SINGLE INSTITUTION EXPERIENCE
James C Padussis, MD, Jennifer Steve, BS, Stephanie Novak, BS, Melissa E Hogg, MD, Amer H Zureikat, MD, Herbert J Zeh III, MD; University of Pittsburgh Medical Center, Pittsburgh, US

P023 ENGLISH AND SPANISH LANGUAGE READABILITY OF ONLINE PATIENT RESOURCES FOR Pancreatic CANCER
Manuel Castillo-Angeles, MD, Alessandra Storino, MD, Ammara A Watkins, MD, Christina R Vargas, MD, Jennifer F Tseng, MD, Mark P Callery, MD, A. James Moser, MD, Tara S Kent, MD; Beth Israel Deaconess Medical Center, Boston, US

P024 FEASIBILITY OF PANCREATECTOMY AFTER HIGH DOSE PROTON THERAPY FOR INITIALLY UNRESECTABLE Pancreatic CANCER
Romaine C Nichols, MD1, Christopher G Morris1, Debashish Bose, MD2, Steven J Hughes, MD3, John A Stauffer, MD4, Scott A Celinski5, Robert C Martin6, Elizabeth A Johnson6, Robert A Zaiden7, Michael S Rutenberg1; 1UF Health Proton Therapy Institute, 2UF Health Cancer Center - Orlando Health, 3UF Health Cancer Center - Gainesville, 4Mayo Clinic - Jacksonville, 5Baylor University, 6University of Louisville, 7Baptist Hospital - Jacksonville, Jacksonville, US

P025 IMPACT OF PREOPERATIVE DIABETES AND DEGREE OF HYPERGLYCEMIA ON PROGNOSIS OF PATIENTS WITH RESECTED Pancreatic DUCTAL ADENOCARCINOMA
Yoo-Seok Yoon, Woohyung Lee, Ho-Seong Han, Jai Young Cho; Seoul National University Bundang Hospital, Seongnam-si, KR

P026 INACCURACY OF PRE-OPERATIVE SIZE DETERMINATION IN Pancreatic NEUROENDOCRINE TUMORS: A RETROSPECTIVE STUDY ON 199 PATIENTS
G Butturini1, A Malpaga1, H Impellizzeri1, G Marchegiani1, M Miotto1, R Manfredi2, G Zamboni2, P Capelli3, S Cingarlini4, L Landoni1, R Salvia1, C Bassi1; 1The Pancreas Institute Surgical Unit, 2The Pancreas Institute Radiology Unit, 3The Pancreas Institute Pathology Unit, 4The Pancreas Institute Oncology Unit, Verona, IT

P027 ISOLATED POSITIVE PERITONEAL CYTOLOGY IS ASSOCIATED WITH BETTER SURVIVAL THAN GROSS METASTATIC DISEASE IN ADVANCED Pancreatic CANCER
Stephen Y Oh, MBBS, BSc, FRACP, Alicia M Edwards, MBA, Margaret T Mandelson, PhD, Thomas Biehl, MD, FACS, Scott Helton, MD, FACS, Flavio G Rocha, MD, FACS, Vincent Picozzi, MD, Adnan Alseidi, MD, EdM, FACS; Digestive Disease Institute at Virginia Mason Medical Center, Seattle, US

P028 MALIGNANT PROGRESSION IN INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS OF THE Pancreas: OUTCOME OF INITIALLY SELECTED FOR RESECTION OR PRIMARY SURVEILLANCE
Takuya Sakoda, MD, Yoshiaki Murakami, Kenichiro Uemura, Yasushi Hashimoto, Naru Kondo, Naoya Nakagawa, Kazuhide Urabe, Hayato Sasaki, Hiroki Ohge, Taijiro Sueda; Dep.of Surgery, Appli. Life Sciences Institute of Biomedical & Health Sciences, Hiroshima University, Hiroshima, JP

P029 Pancreatic CANCER PATIENTS WITH LYMPH NODE INVOLVEMENT BY DIRECT TUMOR EXTENSION HAVE SIMILAR SURVIVAL TO THOSE WITH NODE-NEGATIVE DISEASE
Jennifer L Williams, MD1, Andrew H Nguyen, MD2, Matthew Rochefort, MD2, James S Tomlinson, MD2, Oscar J Hines, MD2, Howard A Reber, MD2, Timothy R Donahue, MD2; 1Department of Surgery, Harbor-UCLA Medical Center; 2Department of Surgery, David Geffen School of Medicine at UCLA, Los Angeles, US
**P030** PANCREATICODUODENECTOMY IN THE SETTING OF INTESTINAL MALROTATION  
Canaan Baer, MD\(^1\), Randall Zuckerman, MD\(^2\), Thomas Biehl, MD\(^1\), Scott Helton, MD\(^1\), Flavio G Rocha, MD\(^1\); \(^1\)Virginia Mason Medical Center, \(^2\)St. Vincent’s Medical Center, Seattle, US

**P031** PARTIAL COVERED BILIARY METALLIC STENT WITH/WITHOUT DUODENUM METAL STENT AND NEOADJUVANT CHEMORADIATION THERAPY PROVIDE SYMPTOMATIC BORDERLINE RESECTABLE PANCREATIC HEAD CANCER WITH A SAFE R0 SURGERY  
Kensuke Kubota, MD\(^1\), Sho Hasegawa, MD, Ken Ishii, MD, Yuji Fujita, MD, Yusuke Sekino, MD, Kunihiro Hosono, MD, Atsushi Nakaima, MD; Gastroenterology and Hepatology, Yokohama City University, Yokohama, JP

**P032** PERSONALIZED MEDICINE: A NEW MODEL FOR PRIMARY AND SECONDARY PANCREATIC NEOPLASMA PREVENTION  
Milena Di Leo, MD\(^1\), Raffaella A Zuppardo\(^1\), Roberta Maselli\(^1\), Elisa Radice\(^1\), Andrea M Tamburini\(^2\), Paola Zanelli\(^3\), Maurizio Ferrari\(^4\), Luca Albarello\(^5\), Michele Reni\(^6\), Monica Ronzoni\(^6\), Pier Alberto Testoni\(^7\), Giulia Martina Cavestro\(^8\); \(^1\)Gastroenterology Unit, IRCCS San Raffaele Scientific Institute, Vita-Salute San Raffaele University, \(^2\)Gastrointestinal Surgical Unit, Department of Surgery, IRCCS San Raffaele Scientific Institute, \(^3\)Immunogenetic Unit, Parma University Hospital Parma, Parma, Italy, \(^4\)Clinical Molecular Biology, IRCCS San Raffaele Scientific Institute, Vita-Salute San Raffaele University, \(^5\)Department of Pathology, IRCCS San Raffaele Scientific Institute, Vita San Raffaele University, \(^6\)Department of Oncology, Division of Experimental Oncology, IRCCS San Raffaele Scientific Institute, Milano, IT

**P033** PRACTICE PATTERNS AND IMPACT OF IMAGING SURVEILLANCE AFTER RESECTION FOR PANCREATIC DUCTAL ADENOCARCINOMA  
June S Peng, MD, Colin O’Rourke, Gareth Morris-Stiff, MD, PhD, R. Matthew Walsh, MD, Sricharan Chalikonda, MD; Cleveland Clinic, Cleveland, US

**P034** RADIOGRAPHIC RESPONSE AND RESECTABILITY OF LOCALLY ADVANCED, BORDERLINE RESECTABLE PANCREATIC ADENOCARCINOMA AFTER EXTENDED NEOADJUVANT CHEMOTHERAPY  
Jesse Clanton, J B Rose, Adnan Alseidi, Thomas Biehl, Scott Helton, Flavio Rocha; Virginia Mason Medical Center, Seattle, US

**P035** RESULTS OF THE RAMPS PROCEDURE IN 78 PATIENTS WITH ADENOCARCINOMA OF THE DISTAL PANCREAS: DOES THE PROCEDURE ATTAIN THE ONCOLOGIC GOALS FOR RESECTION OF LEFT SIDED PANCREATEIC ADENOCARCINOMAS?  
Julie G Grossman, MD\(^1\), Feng Gao, MD, PhD, MPH\(^1\), Ryan Fields, MD\(^1\), William Hawkins, MD\(^1\), David Linehan, MD\(^2\), Steven Strasberg, MD\(^1\); \(^1\)Washington University School of Medicine in St. Louis, \(^2\)University of Rochester, Saint Louis, US

**P036** RISK OF MISDIAGNOSIS AND OVERTREATMENT IN PATIENTS WITH MAIN PANCREATIC DUCT DILATATION AND SUSPECTED COMBINED/MAIN-DUCT IPMNS  
Stefano Crippa\(^1\), Ilaria Pergolini\(^1\), Corrado Rubini\(^1\), Giorgia Marchesini\(^1\), Paola Castelli\(^2\), Alessandro Pucci\(^1\), Giuseppe Zamboni\(^2\), Massimo Falconi\(^1\); \(^1\)Universita’ Politecnica delle Marche, \(^2\)Ospedale Sacro Cuore Negrar, Ancona, IT
P037 ROLE OF COMBINED 68GA-DOTATOC AND 18F-FDG PET-CT IN THE DIAGNOSTIC WORKUP OF WELL AND MODERATELY DIFFERENTIATED NEUROENDOCRINE TUMORS OF THE PANCREAS (PNETS): A SURGICAL SERIES.  
1The Pancreas Institute Surgical Unit, 2The Pancreas Institute Oncology Unit, 3Department of Nuclear Medicine Ospedale Sacro Cuore Negrar-Verona, 4The Pancreas Institute Pathology Unit, 5Department of Surgery and Oncology, Hepatobiliary Unit, 6The Pancreas Institute Radiology Unit, 7The Pancreas Institute Endocrinology Unit, Verona, IT

P038 SIGNIFICANCE OF HISTOLOGICAL RESPONSE FOR PREDICTING THE OUTCOME IN PATIENTS WITH PANCREATIC DUCTAL ADENOCARCINOMA RESECTED AFTER GEMCITABINE-BASED CHEMORADIOThERAPY  
Hiroyuki Kato, MD, PhD, Ryosuke Desaki, MD, PhD, Yasuhiro Murata, MD, PhD, Akihiro Tanemura, MD, PhD, Naohisa Kuriyama, MD, PhD, Yoshinori Azumi, MD, PhD, Masashi Kishiwada, MD, PhD, Shugo Mizuno, MD, PhD, Masanobu Usui, MD, PhD, Hiroyuki Sakurai, MD, PhD, Shuji Isaji, MD, PhD; Department of Hepatobiliary pancreatic and transplant surgery, Mie university hospital, Tsu, Mie, JP

P039 SURGICAL STRATEGY FOR PATIENTS WITH RIGHT HEPATIC ARTERY VARIATIONS IN PANCREATICODUODENECTOMY  
Ken-ichi Okada, MD, PhD, Manabu Kawai, Seiko Hirono, Motoki Miyazawa, Atsushi Shimizu, Yuji Kitahata, Hiroki Yamaue; Wakayama Medical University, Wakayama, JP

P040 SYSTEMATIC REVIEW OF INNOVATIVE ABLATIVE THERAPIES FOR THE TREATMENT OF LOCALLY ADVANCED PANCREATIC CANCER  
Sje Rombouts, MD, Ja Vogel, MD, Hc V Santvoort, MD, Kp V Lienden, MD, PhD, R V Hillegersberg, MD, PhD, Orc Busch, MD, PhD, Mgh Besselink, MD, PhD, Iq Molenaar, MD, PhD; 1University Medical Center Utrecht, 2Academic Medical Center Amsterdam, Amsterdam, NL

P041 VALIDATION OF IMMEDIATE PERITONEAL WASHING CYTOLOGY RESULTS IN Pancreatic AND Gastric Cancer  
Andrea Porpiglia, MD, Hormoz Ehya, MD, John P Hoffman, MD; Fox Chase Cancer Center, Philadelphia, US

P042 A PROSPECTIVE STUDY OF SURGICAL OUTCOME AND DIFFERENCES ON HISTOPATHOLOGY IN PATIENTS WITH ALCOHOLIC AND NON ALCOHOLIC CHRONIC PANCREATITIS (CP)  
Srinath S R, MS, Rajesh Gupta, Professorsurgical, gastroenterology, Sunil Shenvi, MSMchsurgical, gastroenterology, Deepak Bhasin, ProfessorGastroenterology, Ritambhra Nada, Associate, Professor, Dept, of, Histopath, Mandeep Kang, Associate, ProfessorDeptRadiodiagnosis, Naresh Sachdeva, Associate, ProfessorDeptEndocrinology; PGIMER, Chandigarh, Chandigarh, IN

P043 A VERIFICATION STUDY OF THE FISTULA RISK SCORE NEWLY LAUNCHED ON Pancreas Club Website  
Hisashi Kosaka, Y Asano, K Suzumura, A Kurimoto, T Okamoto, K Ohashi, S Hai, Y Kondo, I Nakamura, Uyama, T Okada, T Hirano, Y Iimuro, J Fujimoto; Hyogo College of Medicine, Nishinomiya, JP
P044 DISTAL PANCREATECTOMY WITH ISLET AUTOTRANSPLANT FOR SELECT PATIENTS WITH FOCAL CHRONIC PANCREATITIS  
Sydne Muratore, MD, Melena Bellin, MD, Ty Dunn, MD, FACS, Timothy Pruett, MD, Alfred Clavel, MD, Josh Wilhelm, MS, Srinath Chinnakotla, MD, David Sutherland, MD, PhD, Greg Beilman, MD, FACS; University of Minnesota, Minneapolis, US

P045 DOES POST-OPERATIVE COMPLICATIONS REALLY AFFECT THE ONCOLOGICAL RESULTS AFTER PANCREATICO-DUODENECTOMY FOR CANCER?  
Gennaro Nappo, MD¹, Michel El Bechwaty, MD¹, Julie Perinel, MD¹, Roberto Coppola, MD, Ph, FACS², Mustapha Adham, MD, Ph³; ¹HPB Surgery, Edouard Herriot Hospital, Lyon, France, ²General Surgery, Campus Bio-Medico University of Rome, Lyon, FR

P046 EVALUATION OF CENTRAL PANCREATECTOMY AND PANCREATIC ENucleATION AS PANCREATIC RESECTIONS - A COMPARISON  
Marius Distler, MD¹, Steffen Wolk, MD¹, Stephan Kersting, MD², Weitz Jürgen, Prof¹, Grüttzmann Robert, Prof¹; ¹Department for General, Thoracic and Vascular Surgery, Universityhospital Carl Gustav Carus, TU Dr, ²Department for General and Vascular Surgery, RKK Hospital-St. Josefs, Freiburg, Germany, Dresden, DE

P047 FAST-TRACK PATHWAY AFTER PANCREATICODUODENECTOMY. SPECIFIC DIET THERAPY PROTOCOLS REDUCES THE RATE OF DELAYED GASTRIC EMPTYING  
Sergio Valeri, Paolo Luffarelli, Sara Emerenziani, Domenico Borzomati, Giovanni Battista Giorgio, Rossana Alloni, Roberto Coppola; Campus Bio-Medico University, Rome, IT

P048 HAS SURVIVAL IMPROVED FOLLOWING RESECTION FOR Pancreatic ADENOCARCINOMA?  
Alexander Rosemurgy, MD, Robert Klein, BS, Carrie Ryan, MS, Prashant Sukharamwala, MD, Benjamin Sadowitz, MD, Kenneth Luberice, MS, Sharona B Ross, MD; Florida Hospital Tampa, Tampa, US

P049 HOW MUCH SHOULD WE PAY TO MINIMIZE Pancreatic LEAK: THE COST-EFFECTIVENESS OF PASIREOTIDE IN Pancreatic RESECTION  
De Abbott, Jm Sutton, Pl Jernigan, A Chang, P Frye, Mj Edwards, Sa Shah, Dp Schauer, Mh Eckman, Sa Ahmad, Jj Sussman; University of Cincinnati, Cincinnati, US

P050 LONG-TERM OUTCOMES FOLLOWING SELECTIVE APPLICATION OF LAPAROSCOPIC PANCREATICODUODENECTOMY FOR PERIAMPUlLARy MALIGNANCIES  
Daniel Delitto, MD, Casey Luckhurst, BS, Brian S Black, BS, Thomas J George, MD, George A Sarosi, MD, Ryan M Thomas, MD, Jose G Trevino, MD, Kevin E Behrns, MD, Steven J Hughes, MD; University of Florida, Gainesville, US

P051 MEDICAID BENEFICIARIES UNDERGOING COMPLEX SURGERY AT QUALITY CARE CENTERS: INSIGHTS INTO THE AFFORDABLE CARE ACT  
E C Hall, MD, MPH¹, C Zheng², R C Langan, MD¹, L B Johnson, MD, MBA¹, N Shara, PhD³, W B Al-Refaie³; ¹MedStar Georgetown University Hospital,²MedStar Georgetown Surgical Outcomes Research Center, ³MedStar Health Research Institute, Washington, US
P052 NO SUPERIORITY OF PANCREATICOGASTROSTOMY OVER PANCREATICOJEJUNOSTOMY IN THE PREVENTION OF Pancreatic FISTULA AFTER PANCREATICODUODENECTOMY: AN UPDATED META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS Stefano Crippa, Roberto Cirocchi, Justus Randolph, Stefano Partelli, Amilcare Parisi, Alessandro Pucci, Michele Pagnanelli, Massimo Falconi, Universita’ Politecnica delle Marche, Universita’ di Perugia, Mercer University, Atlanta, USA, Ancona, IT

P053 PANCREATECTOMY SURGICAL SITE INFECTIONS: WHAT ARE THE RISK FACTORS? Gareth Morris-Stiff, Colin O’Rourke, R Matthew Walsh, Henry A Pitt, HPB Surgery, Cleveland Clinic Foundation, Quantitative Health Sciences, Cleveland Clinic Foundation, Department of Surgery, Temple University, Cleveland, US

P054 PANCREATICOGASTROSTOMY FOLLOWING PANCREATICODUODENECTOMY IS ASSOCIATED WITH LOW RE-OPERATION AND Pancreatic FISTULA RATES Jennifer K Plichta, MD, MS, Gerard Abood, MD, MS, Eileen O’Halloran, MD, Sam Pappas, MD, Gerard Aranha, MD; Loyola University Medical Center, Maywood, US

P055 POSTOPERATIVE PAIN CONTROL IN ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOLS FOR Pancreatic SURGERY: THE ROLE OF CONTINUOUS LOCAL ANESTHETIC WOUND INFILTRATION Fara Uccelli, MD, Maria Carla Tinti, Giovanni Capretti, Francesca Gavazzi, Barbara Fiore, Maria Rachele Angiolini, Monica Caravaca Martinez, Marco Montorsi, Alessandro Zerbi; Humanitas Research Hospital, Rozzano, Italy, Vimodrone, IT

P056 PRE-DIAGNOSIS IMPAIRMENT IN ACTIVITIES OF DAILY LIVING PREDICTS WORSE OVERALL SURVIVAL IN Pancreatic ADENOCARCINOMA Clancy J Clark, MD, Pradeep Yarra, MD, Nora Fino, MS, Rishi Pawa, MD; Wake Forest Baptist Health, Winston Salem, US

P057 PRESENTATION, MANAGEMENT AND OUTCOMES OF Pancreatic ADENOCARCINOMA AT A VETERANS AFFAIR TERTIARY MEDICAL CENTER Ali Mokdad, MD, David Kim, MD, Sergio Huerta, MD, Mathew Augustine, Alexandra Webb, MD, Michael A Choti, MD, Zeeshan Ramzan, MD, Patricio M Polanco, MD; University of Texas Southwestern Medical Center/Veterans Affairs North Texas Health Care System, University of Texas Southwestern Medical Center, Dallas, US

P058 RELATIVE CONTRIBUTIONS OF COMPLICATIONS AND FAILURE TO RESCUE ON MORTALITY IN OLDER PATIENTS UNDERGOING PANCREATECTOMY Nina Tamirisa, MD, Abhishek Parmar, Gabriela Vargas, Hemalkumar Mehta, Elizabeth Kilbane, Bruce Hall, Henry Pitt, Taylor Riall, MD, PhD, UTMB Galveston and UCSF East Bay, Indiana University Health, Washington University in St Louis; BJC Healthcare, St Louis, MO, Department of Surgery, Temple University Health System, Philadelphia, PA, Houston, US
P059 RISK FACTORS OF NEW-ONSET DIABETES MELLITUS AFTER PANCREATICODUODENECTOMY, PAYING ATTENTION TO LONG-TERM MORPHOLOGICAL CHANGES IN THE REMNANT PANCREAS Yusuke Iizawa, MD, Masahiro Kishiwada, MD, PhD, Yoshinori Azumi, MD, PhD, Hiroyuki Kato, MD, PhD, Akihiro Tanemura, MD, PhD, Yasuhiro Murata, MD, PhD, Naohisa Kuriyama, MD, PhD, Shugo Mizuno, MD, PhD, Masanobu Usui, MD, PhD, Hiroyuki Sakurai, MD, PhD, Shuji Isaji, MD, PhD; Hepatobiliary Pancreatic and Transplant Surgery, Mie University School of Medicine, Tsu, Mie, JP

P060 SARCOPENIA - AN UNDERESTIMATED BUT IMPORTANT ADVERSE PROGNOSTIC FACTOR IN PATIENTS UNDERGOING SURGERY FOR Pancreatic DUCTAL ADENOCARCINOMA Klaus Sahora, MD, Gregor Werba, MD, Dietmar Tamandl, MD, Irene Kuehrer, MD, Martin Schindl, MD, Michael Gnant, MD; Medical University Vienna, Vienna, AT

P061 SHOULD I STAY OR SHOULD I GO NOW: FACTORS INFLUENCING HIGH LENGTH OF STAY AFTER PANCREATECTOMY Michal Radomski, MD, MS, Amer Zureikat, MD, J.Wallis Marsh, MD, Kenneth K Lee, MD, Allan Tsung, MD, David Bartlett, MD, Herbert J Zeh, III, MD, Melissa E Hogg, MD; University of Pittsburgh, Pittsburgh, US

P062 SMOKING NEGATIVELY AFFECTS OUTCOMES AFTER TOTAL PANCREATECTOMY WITH ISLET AUTOTRANSPLANTATION William P Lancaster, MD, David B Adams, MD, Katherine A Morgan, MD; Medical University of South Carolina, Charleston, US

P063 STARTING A PANCREATIC SURGERY PROGRAM AT A COMMUNITY HOSPITAL: BUCKING THE TREND Jeffrey M Hardacre, MD, Siavash Raigani, BA, John Dumot, DO; University Hospitals Case Medical Center, Case Western Reserve University School of Medicine, University Hospitals Ahuja Medical Center, Cleveland, US

P064 SURVIVAL AFTER DISTAL PANCREATECTOMY FOR Pancreatic DUCTAL ADENOCARCINOMA: A NATIONWIDE RETROSPECTIVE COHORT STUDY Thijs De Rooij, Bsc, Johanna Tol, Casper Van Eijck, MD, PhD, Djiamila Boerma, MD, PhD, Bert Bonsing, MD, PhD, Koop Bosscha, MD, PhD, Ronald Van Dam, MD, PhD, Marcel Dijkstra, PhD, Michael Gerhards, MD, PhD, Harry Van Goor, MD, PhD, Erwin Van Der Harst, MD, PhD, Ignace De Hingh, MD, PhD, Geert Kazemier, MD, PhD, Joost Klaase, MD, PhD, Quintus Molenaar, MD, PhD, Gijs Patijn, MD, PhD, Hjalmar Van Santvoort, MD, PhD, Joris Scheepers, MD, PhD, George Van Der Schelling, MD, PhD, Egbert Sieders, MD, PhD, Olivier Busch, MD, PhD, Marc Besselink, MD, PhD; Academic Medical Center, Erasmus Medical Center, St Antonius Hospital, Leiden University Medical Center, Jeroen Bosch Hospital, Maastricht University Medical Center, Onze Lieve Vrouwe Gasthuis, Radboud University Medical Center, Maasstad Hospital, Catharina Hospital, VU University Medical Center, Medisch Spectrum Twente, University Medical Center Utrecht, Isala Clinics, Reinier de Graaf Gasthuis, Amphia Hospital, University Medical Center Groningen, Amsterdam, NL

P065 SURVIVAL BENEFIT ASSOCIATED WITH ADJUVANT CHEMORADIOThERAPY IN Pancreatic Ductal Adenocarcinoma. Patrick J Worth, MD, Erin W Gilbert, MD, Raphael El Youssef, MD, Charles R Thomas, MD, Brett C Sheppard, MD; Oregon Health & Science University, Portland, US
P066 THE EVALUATION OF PREOPERATIVE INFLAMMATORY MARKERS IN PREDICTION OF POST-OPERATIVE COMPLICATIONS AND SURVIVAL AFTER PANCREATIC SURGERY FOR CANCER. Gennaro Nappo, MD, Julie Perinel, MD, Tommasangelo Petitti, MD, Michel El Bechwaty, MD, Roberto Coppola, MD, Ph, FACS, Mustapha Adham, MD, Ph; 1HPB Surgery, Edouard Herriot Hospital, Lyon, France, 2Public Health and Statistics, Campus Bio-Medico University of Rome, 3General Surgery, Campus Bio-Medico University of Rome, Lyon, FR

P067 THE IMPACT OF MINIMALLY INVASIVE DISTAL PANCREATECTOMY ON 90-DAY READMISSIONS AND COST: IS IT ANY BETTER THAN OPEN? Janak Parikh, MD, Sandeep Anantha Sathyanarayana, Scott Bendix, MD, Michael J Jacobs, MD; Providence Hospital Medical Center, Southfield, US

P068 VASCULAR RESECTION IN THE SURGICAL TREATMENT OF PANCREATIC ADENOCARCINOMA; EXPERIENCE OF A CENTER E Vigia, MD, S Corado, M Sobral, A Nobre, L Biho, E Filipe, J Paulino Pereira, A Martins, E Barroso; Hospital Curry Cabral - Centro hepatobiliopancreático e Transplantação, Lisbon, PT

P069 WHIPPLES IN OCTOGENARIANS: PATIENT SELECTION TRUMPS AGEISM Audrey E Ertel, MD, Jeffrey M Sutton, MD, Koffi Wima, MS, Richard S Hoehn, MD, Syed A Ahmad, MD, Jeffrey J Sussman, MD, Shimul A Shah, MD, MHCM, Daniel E Abbott, MD; Department of General Surgery, University of Cincinnati, Cincinnati, US

P070 LAPAROSCOPIC FREY PROCEDURE Igor Khatkov, Viktor Tsvirkun, Roman Izrailov, Ruslan Alikhanov, Aleksey Andrianov, Pavel Tyutyunnik, Artur Khisamov; Moscow Clinical Scientific Centre, Moscow, RU

P071 PANCREAS STUMP CLOSURE TECHNIQUE AFFECTS PANCREATIC FISTULA RATE AFTER RADICAL DISTAL PANCREATECTOMY Roderich E Schwarz, MD; IUH Goshen Center for Cancer Care, Goshen, US

P072 PANCREATIC LIPOMA: INNOCENT BYSTANDER OR PATHOLOGICAL PROCESS? Maxwell T Fohtung, BS, Nicholas J Zyromski, MD, Kumar Sandrasegaran, MD; Indiana University School of Medicine, Indianapolis, US

P073 TOTAL LAPAROSCOPIC PANCREATICODUODENECTOMY: A SINGLE – INSTITUTIONAL EXPERIENCE Alessandro Paniccia, Richard D Schulick, MD, MBA, Barish H Edil, MD; Department of Surgery, University of Colorado Anschutz Medical Campus, Aurora, CO, Aurora, US

P074 INTESTINAL BARRIER DYSFUNCTION IN AGEING ANIMALS WITH ACUTE PANCREATITIS: INCREASED INTESTINAL INFLAMMATION? Marcel C C Machado, MD, PhD, Fabiano Pinheira-Silva, MD, PhD, Debora G Cunha, Denise F Barbeiro, PhD, Ana Maria M Coelho, PhD, Heraldo P Souza, MD, PhD; 1Department Emergency Medicine, University of Sao Paulo, SP, Brazil, 2Department of Gastroenterology (LIM/37), University of Sap Paulo, SP, Brazil, 3Department of Gastroenterology and Alimentary Tract Surgery, Tampere University Hospital, Finland, Tampere, FI

P075 RECIPROCAL STIMULATION OF PANCREATIC ACINAR AND STELLATE CELLS IN A NOVEL LONG-TERM IN VITRO CO-CULTURE MODEL Merja Blauer, PhD, Matias Laaninen, MD, Juhani Sand, MD, PhD, Johanna Laukkanen, MD, PhD; 1Tampere Pancreas Laboratory; Tampere, Finland, 2Department of Gastroenterology and Alimentary Tract Surgery, Tampere University Hospital, Finland, Tampere, FI
P076 VITAMIN D INDUCES UP-REGULATION OF ITS COGNATE RECEPTOR AND INHIBITS PROLIFERATION AND EXTRACELLULAR MATRIX PROTEIN EXPRESSION IN MOUSE PANCREATIC STELLATE CELLS  Merja Blauer, PhD1, Niina Ikonen, BS1, Juhani Sand, MD, PhD2, Johanna Laukkarinen, MD, PhD2; 1Tampere Pancreas Laboratory; Tampere, Finland, 2Department of Gastroenterology and Alimentary Tract Surgery, Tampere University Hospital, Finland, Tampere, US

P077 A CASE STUDY OF SIBLINGS WITH HEREDITARY PANCREATITIS; OUTCOMES ARE SUPERIOR FOR SIBLING WHO HAD TOTAL PANCREATECTOMY WITH ISLET AUTO TRANSPLANT Stefanie M Owczarski, PAC, MPAS1, David B Adams, MD, FACS1, Jeffrey Borckardt, PHD2, Wendy Balliet, PHD2, Hongjun Wang, PHD1, Katherine A Morgan, MD, FACS1; 1Medical University of South Carolina, Department of Surgery, Charleston, US, 2Medical University of South Carolina, Department of Psychiatry and Behavioral Sciences, Charleston, US

P079 DIFFERENCES IN IMAGING MODALITIES IN THE EVALUATION OF GALLSTONE PANCREATITIS Naeem Goussous, Hadia Maqsood, Charlotte Horne, Guneet Kaur, Lisa Setiawan, Amanda Sautter, Stephanie James, Hamid Ferdosi, Anne Sill, MSHS, Gopal C Kowdley, MD, PhD, FACS; Saint Agnes Hospital, Ellicott City, US

P080 PANCREATIC NECROSIS: A SINGLE INSTITUTION’S REVIEW OF PRACTICAL ADHERENCE TO A STEP-UP APPROACH Stephanie Downs-Canner, MD, Brian A Boone, MD, Jennifer Steve, BA, Amer Zureikat, MD, Kenneth K Lee, MD, Herbert J Zeh, MD, Melissa Hogg, MD; University of Pittsburgh Medical Center, Pittsburgh, US

P081 ROCK-STAR AND OTHER SHOCKING CAUSES OF PANCREATITIS?* Alain Abdo, Sarina Sachdev, Urvi Shah, Gopal C Kowdley, MD, PhD, FACS, Steven C Cunningham, MD, FACS; Saint Agnes Hospital, Ellicott City, US

P082 USE OF STREPTOKINASE FOR ENHANCEMENT OF PERCUTANEOUS DRAINAGE OF PANCREATIC NECROSIS: A DOUBLE BLINDED RANDOMIZED CONTROLLED TRIAL Rahul Gupta, MS, Rajesh Gupta, MCh, Mandeep Kang, MD, Deepak Bhasin, Madhu Khullar, Rajinder Singh; Post Graduate Institute of Medical Education and Research, Chandigarh, IN
SATURDAY, MAY 16, 2015

★ P083 EFFICACY OF MINNELIDE AND PACLITAXEL COMBINATION AGAINST PANCREATIC CANCER Shrey Modi, MD, Kaustav Majumder, MD, Vikas Dudeja, MD, Sulagna Banerjee, PhD, Ashok Saluja, PhD; University of Minnesota, Minneapolis, US

★ P084 FACTORS ASSOCIATED WITH FAILURE TO REACH SURGICAL RESECTION IN PATIENTS UNDERGOING NEOADJUVANT CHEMOTHERAPY FOR RESECTABLE AND BORDERLINE RESECTABLE PANCREATIC HEAD ADENOCARCINOMA Ana L Gleisner, MD, PhD, Jennifer Miller, MD, Mura Assifi, MD, Jennifer Steve, David L Bartlett, MD, Melissa E Hogg, MD, Herbert J Zeh, MD, Amer H Zureikat, MD; Division of Surgical Oncology, UPMC, Pittsburgh, US

★ P085 IMPACT OF SARCOPENIA ON SHORT- AND LONG-TERM OUTCOMES IN PATIENTS UNDERGOING CURATIVE RESECTION FOR PANCREATIC ADENOCARCINOMA: A NEW TOOL Neda Amini, Rohan Gupta, Georgios A Margonis, Yuhree Kim, Gaya Spolverato, Neda Rezaee, Matthew J Weiss, Christopher L Wolfgang, Martin A Makary, Ihab R Kamel, Timothy M Pawlik; Johns Hopkins Hospital, Baltimore, US

★ P086 OUTCOMES FOLLOWING TREATMENT OF PANCREATIC ADENOCARCINOMA WITH SMA INVASION Pragatheeshwar Thirunavukarasu, MD, Emmanuel Gabriel, MD, Boris Kuvshinoff, MD, Steven Hochwald, MD, Steven Nurkin, MD; Roswell Park Cancer Institute, Buffalo, US

★ P087 COMPARISON OF PANCREAS-SPARING DUODENECTOMY (PSD) AND PANCREATODUODENECTOMY (PD) FOR THE MANAGEMENT OF DUODENAL POLYPOSIS SYNDROMES. Gareth Morris-Stiff1, Matthew Dong1, Noaman Ali1, Subhash Reddy1, Colin O'Rourke2, R Matthew Walsh3; HPB Surgery, Cleveland Clinic Foundation, 2Quantitative Heath Sciences, Cleveland Clinic Foundation, Cleveland, US

★ P088 PANCREATICODUODENECTOMY FOR PANCREATIC NEUROENDOCRINE TUMORS: ARE COMBINED PROCEDURES JUSTIFIED? Cornelius A Thiels, DO, MBA, Kristopher Kroome, MD, Danuel V Laan, MD, Jay R Bergquist, MD, Kristine Thomsen, Mark J Truty, MD; Mayo Clinic, Rochester, US

★ P089 SURVIVAL OUTCOMES AND TREATMENT FAILURE AFTER METAL BILIARY STENT AND OPEN SURGICAL BILIARY BYPASS AMONG PATIENTS WITH ADVANCED PANCREATIC ADENOCARCINOMA RECEIVING CHEMOTHERAPY Alessandra Storino, MD, Rohan Maydeo, MD, Ammara A Watkins, MD, Manuel Castillo-Angeles, MD, William E Gooding, MS, Tara S Kent, MD, Mandep S Sawhney, MD, A. James Moser, MD; Institute of Hepatobiliary & Pancreatic Surgery - Beth Israel Deaconess Medical Center, 2Advanced Endoscopy and Gastroenterology - Beth Israel Deaconess Medical Center, 3Biostatistics Department - University of Pittsburgh Cancer Institute, Boston, US

★ P090 THE CHARACTERIZATION AND PREDICTION OF ISGF1 GRADE C FISTULAS FOLLOWING PANCREATODUODENECTOMY Matthew T McMillian, BA1, Charles M Vollmer, MD, Jeffrey A Drebin, MD, PhD1, Michael H Sprys, MS1, Pancreas Fistula Study Group1, Stephen W Behrman, MD2; 1University of Pennsylvania Perelman School of Medicine, 2University of Tennessee Health Science Center, Philadelphia, US

★ P091 200 ROBOT-ASSISTED PANCREATIC RESECTIONS Niccolò Napoli, Emanuele Federico Kauffmann, Sara Iacopi, Francesca Costa, Fabio Vistoli, Ugo Boggi; Division of General and Transplant Surgery, University of Pisa, Pisa - Italy, Pisa, IT
★ **P092** SHOULD ACUTE PANCREATITIS BE AN INDICATION TO RESECT IPMN?
Jessica L Cioffi, MD, Se Joon Lee, MD, Joshua A Waters, MD, C Max Schmidt, MD, Attila Nakeeb, MD, Michael G House, MD, Eugene P Ceppa, MD, Nicholas J Zyromski, MD; Indiana University, Indianapolis, US

**P093** A GENOME-WIDE LOSS-OF-FUNCTION CRISPR SCREEN TO IDENTIFY MECHANISMS OF CISPLATIN-RESISTANCE IN PANCREAS CANCER
Mathew M Augustine, John Mansour, MD, Adam Yopp, MD, Patricio Polanco, MD, Sam Wang, MD, Matt Porembka, MD, Michael Choti, MD, Joshua Mendell, MD, PhD; UT Southwestern Medical Center, Dallas, US

**P094** AURANOFIN AS A NOVEL CHEMOTHERAPEUTIC AGENT FOR PANCREATIC DUCTAL ADENOCARCINOMA
Mayrim V Rios Perez, MD, David Roife, MD, Bing Bing Dai, PhD, Jason B Fleming, MD; Department of Surgical Oncology, University of Texas MD Anderson Cancer Center, Houston, US

**P095** BIOBANK OF PANCREATIC DUCTAL ADENOCARCINOMA ACHIEVED FROM HUMAN PATIENTS AND TRANSPLANTED INTO IMMUNODEFICIENT MICE
Eugenio Morandi, MD1, Michela Monteleone, MD1, David Alessio Merlino, MD1, GianAndrea Vignati, MD1, Tiziana D'Aponte, MD1, Marco Castoldi, MD1, Maria Rosa Bani2, Raffaella Giavazzi2; 1Eugenio Morandi Foundation for the Study and Treatment of Pancreatic Cancer, 2IRCCS-Mario Negri Institute for Pharmacological Research, Rho (milan), IT

**P096** CXCL10 WITHIN THE TUMOR MICROENVIRONMENT INDUCES GEMCITABINE RESISTANCE IN PANCREATIC CANCER CELLS
Daniel Delitto, MD, Chelsey Perez, Brian S Black, BS, Heather L Sorenson, BS, Andrea E Knowlton, PhD, Song Han, PhD, Dongyu Zhang, PhD, George A Sarosi, MD, Lyle L Moldawer, PhD, Kevin E Behrns, MD, Chen Liu, MD, PhD, Thomas J George, MD, Ryan M Thomas, MD, Jose G Trevino, MD, Shannon M Wallet, PhD, Steven J Hughes, MD; University of Florida, Gainesville, US

**P097** DIFFERENT CHARACTERISTICS IN HORMONAL EXPRESSION BETWEEN PRIMARY PANCREATIC NEUROENDOCRINE TUMORS (PNETS) AND METASTATIC SITES
Hideyo Kimura, MD1, Takao Ohtsuka1, Takaaki Fujimoto1, Kenjiro Date1, Taketo Matsunaga1, Yusuke Watanabe1, Koji Tamura1, Atsushi Abe2, Yusuke Mizuuchi2, Yoshihiro Miyasaka1, Daisuke Yamada1, Hisato Igarashi3, Tetsuhide Ito1, Shunichi Takahata1, Yoshinao Oda1, Kazuhiro Mizumoto1, Masao Tanaka1; 1Department of Surgery and Oncology, Graduate School of Medical Sciences, Kyushu Univ., 2Department of Anatomic Pathology, Graduate School of Medical Sciences, Kyushu Univ., 3Department of Medicine and Bioregulatory Science, Graduate School of Medical Sciences, Kyushu Univ., Fukuoka, JP

**P098** EMT-MARKER, TUMOR BUDDING AND COLLECTIVE MIGRATION - 3-DIMENSIONAL RECONSTRUCTION OF THE INVASION FRONT IN HUMAN PANCREATIC ADENOCARCINOMA
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Michelle R Koenig, BS¹, Alessandro Paniccia, MD¹, Joshua T Byers, MS¹, Nate Kahn, PhD¹, Alexander Cenciarelli Schulick¹, Justin Merkow, MD¹, Lieping Chen, MD, PhD², Richard Schulick, MD, MBA², Barish Edil, MD¹, Yuwen Zhu, PhD¹;¹Department of Surgery, University of Colorado Anschutz Medical Campus, Aurora, CO, ²Department of Immunobiology, Yale University School of Medicine, New Haven, Connecticut, Aurora, US

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Mahsa Zarei, PhD¹, Fernando F Blanco, PhD¹, Jonathan R Brody, PhD¹, Laszlo G Boros, MD², Jordan M Winter, MD²;¹Department of Surgery, The Jefferson Pancreas, Thomas Jefferson University, ²David Geffen School of Medicine, UCLA, Philadelphia, US

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Sam L Ivry, BS¹, Kimberly S Kirkwood, MD¹, Charles Craik, PhD¹, Dana Dominguez, BS¹, Anthony O’Donoghue, PhD¹, Randall E Brand²;¹University of California San Francisco, ²University of Pittsburgh, San Francisco, US

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Jacob E Dowden, MD, Ramsay Camp, MD, Eric T Kimchi, MD, Katherine A Morgan, MD, David B Adams, MD, Kevin F Staveley-O’Carroll, MD, PhD; Medical University of South Carolina, Charleston, US

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Laura Maffino, MD, Giuseppe Maiolo, MD, Francesco Gulino, MD, Giovanni Butturini, MD, PhD, Roberto Salvia, MD, PhD, Claudio Bassi, MD, FRCS, FACS; Department of Surgery, The Pancreas Institute, University of Verona, Verona, Italy, Verona, IT
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Eveline E Vietsch, MD1, Jeroen W Versteeg2, Narayan M Shivapurkar1, Niels F Kok2, Mustafa Suker2, Casper H van Eijck2, Anton Wellstein1; 1Lombardi Comprehensive Cancer Center, Georgetown University, 2Erasmus Medical Center, Rotterdam, the Netherlands, Washington Dc, US

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Naru Kondo, MD, Yoshiaki Murakami, MD, Kenichiro Uemura, MD, Yushis Hiashimoto, MD, Naoya Nakagawa, MD, Taijiro Sueda, MD, Institute of Biomedical and Health Sciences Applied Life Sciences Surgery, Hiroshima University, Hiroshima, JP

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Keita Wada, MD, Keiji Sano, Hodaka Amano, Fumihiko Miura, Naoyuki Toyota, Hiromichi Ito, Yoshiko Aoyagi, Makoto Shibuya; Teikyo university school of medicine, Tokyo, JP

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P116 LOW COMPLETION RATE OF ADJUVANT CHEMOTHERAPY AFTER ONCOLOGIC RESECTION OF PANCREATIC CANCER IN CLINICAL ROUTINE CARE Guido Alsfasser, MD, Johanna Bochow, Anna L Kutsch, Ernst Klär, Bettina M Rau; University of Rostock, Rostock, DE

P117 LYMPHANGIOMA: A RARE BUT CURABLE TUMOR INVOLVING THE PANCREAS Owen Young, MD, Thomas Biehl, MD, Adnan Alseidi, MD, Flavio Rocha, MD; Virginia Mason Medical Center, Seattle, US

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P119 MULTIDISCIPLINARY MANAGEMENT OF PATIENTS AFFECTED BY POST-PANCREATECTOMY HEMORRHAGES Domenico Borzomati, MD, FACSi, Rosario Francesco Grasso, MDii, Sergio Valeri, MDii, Eliodoro Faella, MDii, Gennaro Nappo, MDii, Giacomo Luppi, MDii, Pasquale Scognamiglio, Roberto Coppola, MD, Ph, FACSi; General Surgery, Campus Bio-Medico University of Rome, 2Interventional Radiology, Campus Bio-Medico University of Rome, Lyon, FR

P120 NAB-PACLITAXEL PLUS GEMCITABINE VS GEMCITABINE ALONE FOR RESECTED PANCREATIC CANCER IN A PHASE III TRIAL (APACT) Margaret Tempero1, Dana Cardin, MD2, Andrew Blankin, MD3, David Goldstein4, Malcolm Moore5, Eileen M O’Reilly6, Philip Philip7, Hanno Riess8, Teresa Macarulla9, Lotus Yung10, Mingyu Li10, Julie Jeanes, PharmD10, Brian Lu10; UCSF Pancreas Center, 2Vanderbilt University Medical Center, 3Wolfson Wohl Cancer Research Center, 4Prince of Wales Hospital, 5Princess Margaret Hospital, 6Memorial Sloan Kettering, 7Karmanos Cancer Center, 8Charité-Universitätsmedizin Berlin, Campus Virchow-Klinikum, 9Vall d’Hebron University Hospital, 10Celgene Corporation, San Francisco, US

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P122 PANCREATIC SURGERY FOR PANCREATIC ADENOCARCINOMA: A COMPARISON BETWEEN THE LAPAROSCOPIC AND OPEN SURGICAL APPROACH John A Stauffer, MDi, Alessandro Coppola, MDii, Horacio J Asbun, MDii; 1Mayo Clinic Florida, 2Università Cattolica del Sacro Cuore, Rome, Italy, Jacksonville, US

P123 PANCREATITIS, CANCER, AND THE INTERNET: WHAT DOCTORS SHOULD KNOW TO BEST HELP THEIR PATIENTS Isabella Guajardo, BA; University of California, San Francisco, San Francisco, US
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J B Rose, MD, MAS, E G Rocha, MD, A A Alseidi, MD, T R Biehl, MD, B Lin, MD, V Picozzi, MD, W S Helton, MD; Virginia Mason Medical Center, Seattle, US

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Lorenzo Mannelli, MD, PhD; Maggie M Fung, PhD; Gregory Nyman; Sabrina Lopez; Richard K Do, MD, PhD; Memorial Sloan Kettering Cancer Center; Global MR Applications and Workflow, GE Healthcare, New York, NY, United, New York, US

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Motokazu Sugimoto, Joshua Barton, L W Traverso; St. Luke’s Health System, Boise, US

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Trang K Nguyen, Gavin Falk, Daniel Joyce, Gareth Morris-Stiff, R. Matthew Walsh; Cleveland Clinic, Cleveland, US

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Olga Kantor, MD; Mark S Talamonti, MD; Susan J Stocker, LPN; Chi-Hsiung Wang, PhD; David J Winchester, MD, FACS; Richard A Prinz, MD; Marshall Baker, MD, MBA; Department of Surgery, The University of Chicago Medicine; Department of Surgery, NorthShore University HealthSystem; Center for Biomedical Research Informatics, NorthShore University HealthSystem, Chicago, US

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Katherine Engelhardt, MD, William P Lancaster, MD, Hongjun Wang, PhD, David B Adams, MD, Katherine A Morgan, MD; Medical University of South Carolina, Charleston, US
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Somala Mohammed, MD, Amy McElhany, MPH, Charles A West, MD, Daniel Gonzales-Luna, BS, George Van Buren, II, MD, Courtney Nalty, MPH, Eric J Silberfein, MD, Nader N Massarweh, MD, MPH, Alexander C Smith, BS, William E Fisher, MD; Baylor College of Medicine, Houston, US

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Alessandra Landmann, MD, Russell G Postier, MD; University of Oklahoma Health Sciences Center, Oklahoma City, US

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Henry A Pitt, MD, Benjamin L Zarzaur, MD, Stephen W Behrman, MD, E M Kilbane, RN, Bruce L Hall, MD, PhD, MBA, Abhishek Parmer, MD, Taylor S Riall, MD, PhD; Temple University School of Medicine, † Indiana University School of Medicine, ‡ University of Tennessee College of Medicine, § Washington University School of Medicine, ‡ University of Texas Medical Branch, Philadelphia, US

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Kazuhide Urabe, MD, Yoshiaki Murakami, Kenichiro Uemura, Yasushi Hashimoto, Naru Kondo, Naoya Nakagawa, Hayato Sasaki, Taijiro Sueda; Hiroshima University, Hiroshima, JP

P138 INCREASED MORBITDITY AND MORTALITY OF CONCOMITANT COLECTOMY DURING PANCREATICODUODENECTOMY: A NSQIP PROPENSITY SCORE MATCHED ANALYSIS
Jennifer W Harris, MD, Jeremiah T Martin, MD, Erin C Maynard, MD, Patrick C McGrath, MD, Ching-Wei D Tzeng, MD; University of Kentucky, Lexington, US

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Pragatheeshwar Thirunavukarasu, MD, Emmanuel Gabriel, MD, Kristopher Attwood, PhD, Steven Nurkin, MD; Roswell Park Cancer Institute, § University at Buffalo, Buffalo, US

P140 LONG TERM FOLLOW UP AFTER RESECTION OF RENAL CELL CARCINOMA METASTASIS TO THE PANCREAS
Marius Distler, MD, Felix Rückert, MD, David Ollmann, MD, Patrick Teoule, MD, Thorsten Wilhelm, MD, Robert Grützmann, Prof; 1 Department of General, Thoracic and Vascular Surgery, University Hospital Carl Gustav Carus, Technis, 2 The Department of Surgery, University Medical Centre Mannheim, Medical Faculty Mannheim, Heidelberg, Dresden, DE

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May C Tee, MD, MPH, Daniel S Ubl, BA, Elizabeth B Habermann, PhD, MPH, David M Nagorney, MD, Michael L Kendrick, MD, Michael G Sarr, MD, Mark J Truty, MD, MS, Florecia G Que, MD, KMarie Reid-Lombardo, MD, MS, Rory L Smoot, MD, Michael B Farnell, MD; Mayo Clinic, Department of Surgery, Division of Subspeciality General Surgery, 2 Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Rochester, US
P142 ORTHOGRADE PLANIMETRY OF THE PANCREATIC TRANSSECTION PLANE BY USING PREOPERATIVE COMPUTERTOMOGRAPHY IMAGING FOR RISK EVALUATION OF POSTOPERATIVE PANCREATIC FISTULA AFTER PANCREATIC HEAD RESECTION Ulrich Adam, Prof. Dr1, Colin M Krüger, Dr1, Karsten Krüger2, Frank Makowiec, Prof. Dr3, Hartwig Riediger1; 1Humboldt-Klinikum, Klinik für Chirurgie, 2Humboldt-Klinikum, Klinik für Radiologie, 3Universitätsklinikum Freiburg, Chirurgische Klinik, Berlin, DE

P143 PANCREAS SURGERY IN GERMANY - ANALYSIS OF ALL GERMAN PANCREATIC RESECTION 2009-2012 Robert Grützmann1, Christian Krautz1, Marius Distler, MD1, Ulrike Nimptsch2, Thomas Mansky2; 1University Hospital Dresden, 2Technical University Berlin, Dresden, DE

P144 PANCREATIC RESECTION FOR MUCINOUS NEOPLASM INTRADUCTAL PAPILLARY - EXPERIENCE OF 10 YEARS S Corado, MD, E. Vigia, E Filipe, A Nobre, L Bicho, J Paulino Pereira, A Martins, E Barroso; Hospital de Curry Cabral, Lisbon, PT

P145 PERCEPTION IS REALITY: QUALITY METRICS IN PANCREATIC SURGERY- A CENTRAL PANCREAS CONSORTIUM (CPC) ANALYSIS OF 1399 PATIENTS De Abbott1, Da Kooby2, Nb Merchant3, Mh Squires2, Sk Maithel2, Sm Weber4, Er Winslow4, Cs Cho4, Dj Bentrem3, Hj Kim3, Cr Scoggins3, Rc Martin2, Aa Parikh3, Wg Hawkins8, G Martin1, Sa Ahmad1; 1University of Cincinnati, 2Emory University, 3Vanderbilt University, 4University of Wisconsin, 5Northwestern University, 6University of North Carolina, 7University of Louisville, 8Washington University, Cincinnati, US

P146 POST-OPERATIVE OMENTAL INFARCTION IN PATIENTS UNDERGOING DISTAL PANCREATECTOMY: CT IMAGING APPEARANCE, ETIOLOGY AND MANAGEMENT Ammar A Javed, MBBS, Fabio Bagante, MD, Ralph H Hruban, MD, Matthew J Weiss, MD, Martin A Makary, MD, MPH, Kenzo Hirose, MD, Christopher L Wolfgang, MD, PhD, Elliot K Fishman, MD; Johns Hopkins Hospital, Baltimore, US

P147 PREDICTORS OF POSTOPERATIVE OUTCOME AFTER DISTAL PANCREATECTOMY: THE ANSWER FROM TWO HIGH-VOLUME INSTITUTIONS Giovanni Marchegiani1, Rafael Pieretti-Vanmarcke2, Giuseppe Malleo1, Francesca Panzeri1, Tiziana Marchese1, Giovanni Butturini1, Roberto Salvia1, Andrew L Warshaw2, Keith Lillemoe2, Carlos Fernandez-del Castillo2, Claudio Bassi1, Cristina R Ferrone2; 1Università di Verona, 2Massachusetts General Hospital, Verona, IT

P148 PRE-OPERATIVE PHYSICAL STATUS AND PERI-OPERATIVE MORBIDITY AND MORTALITY IN PATIENTS UNDERGOING MAJOR PANCREATIC SURGERY Camilla Cena, MD1, Davide Cigolini, MD1, Roberto Salvia, PhD1, Vittorio Schweiger, MD1, Paolo Regi, MD2, Walter Mosaner, MD2, Enrico Polati, FACS, PhD1, Claudio Bassi, FACS, PhD1; 1University of Verona, 2Casa di Cura Pederzoli, Peschiera del Garda, Verona, IT

P150 SURGICAL MANAGEMENT OF COMPLICATED PANCREATIC PSEUDOCYSTS FOLLOWING ACUTE PANCREATITIS Stephen W Behrman, MD, Katy M Marino, MD, Leah E Hendrick, BS; University of Tennessee Health Science Center, Memphis, US
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Sandeep Anantha Sathyanarayana, MD, Simran Randhawa, MD, Priyanka Annigeri, MD, Giselle Marshall, Edsa Negussie, Michael Jacobs, MD, Janak Parikh, MD; Providence Hospital Medical Center, Southfield, US

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Christopher R Shubert, MD 1, Cristina R Ferrone, MD2, Carlos Fernandez-del Castillo, MD2, Daniel S Ubl1, Karla V Ballman, PhD1, Michael J Ferrara1, Michael L Kendrick, MD1, Michael B Farnell, MD1, KMarie Reid-Lombardo, MD1, Michael G Farr1, MD, David M Nagorney, MD1, Rory L Smoot, MD1, Mark J Truty, MD1, Florencia G Que, MD1; 1Mayo Clinic, 2Massachusetts General Hospital, Rochester, US

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Shugo Mizuno, Shuji Isaji, Masashi Kishiwada, Akihiro Tanemura, Yasuhiro Murata, Hiroyuki Kato, Naohisa Kuriyama, Yoshinori Azumi, Masanobu Usui, Hiroyuki Sakurai; Department of Hepatobiliary Pancreas and Transplant surgery, Mie University, Tsu, JP

P155 CENTRAL PANCREATECTOMY WITH PANCREATICOGASTROSTOMY FOR THE TREATMENT OF A SOLID-PSEUDOPAPILLARY NEOPLASM
Jacob E Dowden, MD, Ramsay Camp, MD, Eric T Kimchi, MD, Katherine A Morgan, MD, David B Adams, MD, Kevin F Staveley-O’Carroll, MD, PhD; Medical University of South Carolina, Charleston, US

P156 DOMAIN-BASED ASSESSMENT OF THE LEARNING CURVE FOR NEW SURGICAL TECHNOLOGY: ROBOT-ASSISTED VS. OPEN DISTAL PANCREATECTOMY
Sjors Klompmaker, MD1, Ammara A Watkins, MD 1, Wald J Van Der Vliet, BSc2, Stijn J Thoolen, BSc2, Manuel Castillo-Angeles, MD1, Jennifer F Tseng, MD, MPH1, Tara S Kent, MD, MPH1, Arthur J Moser, MD, PACS1; 1Beth Israel Deaconess Medical Center/ Harvard Medical School, 2Maastricht University, Rosmalen, NL

P157 FIRST 100 TOTAL LAPAROSCOPIC PANCREATODUODENECTOMY
Igor E Khatkov, MD, PhD, prof, Viktor V Tsivrikun, MD, Prof, Roman E Izrailov, MD, PhD, prof, Pavel S Tyutyunnik, MD, Artur A Khisamov, MD, Aleksey A Andrianov, MD; Moscow Clinical Scientific Center, Moscow, RU

P158 AGED-DEPEND VULNERABILITY TO EXPERIMENTAL ACUTE PANCREATITIS IS ASSOCIATED WITH PREVIOUS LIVER MITOCHONDRIAL DAMAGE
Ana Maria M Coelho, PhD, Sandra N Sampietre, Marcel C Machado, MD, PhD, Jose Eduardo M Cunha, MD, PhD, Eleazar Chaib, MD, PhD, Luiz C D’Albuquerque, MD, PhD; Department of Gastroenterology (LIM/37), University of Sao Paulo, Sao Paulo, Brazil, Sao Paulo Brazil, US
P159 ERYTHROCYTE AGEING AND GLYCATED MARKERS OF DIABETES MELLITUS IN CHRONIC PANCREATITIS. **Manuel Beltran del Rio**, PhD, George Georgiev, MSc, Leo Amodu, MD, Horacio Rilo, MD; Feinstein Institute For Medical Research, Manhasset, US

P160 BIODEGRADABLE BILIARY STENTS MAY HAVE A BENEFICIAL EFFECT OVER COVERED METAL STENTS ON EXPRESSION OF PROTEINS ASSOCIATED WITH TISSUE HEALING IN BENIGN BILIARY STRICTURES **Antti Siiki**, MD, Ralf Jesenofsky, MD, Matthias Löhr, Md, PhD, Isto Nordback, Md, PhD, Juhani Sand, MD, PhD, Johanna Laukkarinen, MD, PhD; Tampere University Hospital, Finland, University of Heidelberg, Germany, Karolinska University Hospital, Sweden, Tampere, FI

P161 CHRONIC PANCREATITIS AND ASSOCIATED FACTORS: A SINGLE CENTER CASE CONTROL STUDY **Milena Di Leo**, MD, Raffaella A Zuppardo, MD, PhD, Alberto Mariani, MD, Margherita Bianco, Oliva B Morrow, Teresa M Rogger, Gioacchino Leandro, MD, Pier Alberto Testoni, MD, Giulia Martina Cavestro, MD, PhD; Gastroenterology Unit, IRCCS San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Gastroenterology Unit 1, Gastroenterological Hospital ‘S. De Bellis’ IRCCS, Castellana Grotte, Italy, Milano, IT

P162 CYANOACRYLATE GLUE INJECTED ENDOSCOPICALLY TO CONTROL BLEEDING FROM A PANCREATITIS INDUCED SPLENIC ARTERY PSEUDOANEURYM **Fiona Ross**, Nigel Jamieson, Sivanathan Chandramohan, Colin J McKay; Department of Pancreatic Surgery, Glasgow Royal Infirmary, Department of Radiology, Glasgow Royal Infirmary, Glasgow, GB

P163 SYSTEMIC LEVELS OF SOLUBLE UROKINASE-TYPE PLASMINOGEN ACTIVATOR RECEPTOR (SUPAR) PREDICT THE SEVERITY OF ACUTE ALCOHOL PANCREATITIS **Anssi Nikkola**, BM, Janne Aittoniemi, PhD, MD, Reetta Hutunen, PhD, MD, Juhani Sand, PhD, MD, Johanna Laukkarinen, PhD, MD; Dept of Gastroenterology and Alimentary Tract Surgery, Tampere University Hospital, Tampere, Finland, Fimlab Laboratories, Tampere, Finland, Dept of Internal Medicine, Tampere University Hospital, Tampere, Finland, Tampere, FI

P164 THE EFFECT OF PERIPANCREATIC VASCULAR DISORDERS ON SURGERY FOR CHRONIC PANCREATITIS **Moritz F Pross**, T Keck, F Makowiec, D Bausch, U F Wellner, U Hopt, K C Honselmann, D Tittelbach-Helmrich; UKSH Luebeck, University clinic Freiburg, Luebeck, DE

P165 U-TUBE DRAINAGE FOR NECROTIZING PANCREATITIS: RESULTS OF A NOVEL INTERVENTION AT A HIGH VOLUME PANCREATIC DISEASE CENTER **Cc Stahl**, Js Moulton, D Vu, RI Ristagno, JJ Sussman, Sa Shah, Sa Ahmad; University of Cincinnati, Cincinnati, US
ORAL ABSTRACTS

S001 OPERATIVE VS. NON-OPERATIVE MANAGEMENT OF NONFUNCTIONING PANCREATIC NEUROENDOCRINE TUMORS
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BACKGROUND: Surgical resection is the only curative treatment for pancreatic neuroendocrine tumors (PNETs), but pancreatic operations are high risk, with up to a 40% complication rate. There are currently no guidelines for surgery vs. surveillance when small, asymptomatic nonfunctioning PNETs are identified. We therefore investigated when resection of nonfunctioning PNETs offers therapeutic benefit.

METHODS: A retrospective review of all patients with nonfunctioning PNETs presenting between 1998-2014 was performed. Non-operative patients had at least one follow-up imaging study. Kaplan-Meier survival analysis was conducted, and clinicopathologic and treatment-related variables were tested for association with overall and disease-specific survival.

RESULTS: A total of 251 patients with nonfunctioning PNETs were analyzed, including 195 operative and 56 non-operative cases. Median age was 56 years and 48% were female. Operative patients had a significantly longer overall survival than non-operative patients (p=0.0013). In multivariate models, metastasis was the only significant predictor of overall survival in each cohort (non-operative, p=0.0044; operative, p=0.0001). Surgery was a significant positive prognostic factor for overall survival (p=0.0016), after controlling for metastasis, tumor size, and age-adjusted Charlson Comorbidity Index (CCI), and for disease-specific survival (p=0.0007), after controlling for tumor size and CCI (all disease-specific deaths were associated with metastasis). In patients with small PNETs (≤ 3cm) and no metastasis, the population for which resection is debated, there was a significant interaction between an operation and tumor size. In a systematic exploratory analysis, the hazard ratio associated with an operation decreased monotonically with increased tumor size, and an operation became a significant prognostic factor for overall survival for tumors over 1.5cm (p=0.029 or less for larger tumors) but was not significant for tumors under 1.5cm (p=0.657 or more for smaller tumors).

CONCLUSION: For small nonfunctioning PNETs, tumor size should be a key consideration in management decisions. Resection of nonfunctioning PNETs over 1.5cm is significantly associated with a longer survival; however, the benefit of resection for tumors under 1.5cm is unclear.

S002 LONG-TERM OUTCOMES OF SURGICAL MANAGEMENT OF PANCREATIC NEUROENDOCRINE TUMORS WITH SYNCHRONOUS LIVER METASTASES
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BACKGROUND/INTRODUCTION: Different therapeutic options are available nowadays for the treatment of liver metastases (LM) of pancreatic neuroendocrine tumors (PNET), including curative or palliative resections as well as anti-tumoral medical...
therapies. The value of surgical resection in the management of LM from PNET is debated. The aim of this study is to evaluate the outcomes following surgical treatment of PNET with LM.

METHODS: Patients with PNET with synchronous LM observed between 2000 and 2011 in 4 high-volume, referral Institutions were included. Patients were divided into 3 groups (curative resection: patients undergoing radical resection of both primary tumor and liver metastases; palliative resection: patients undergoing resection of primary pancreatic tumor with or without associated liver resection with macroscopic residual disease, namely R2 resection; no resection: patients undergoing only medical therapies). Survival analysis was performed and independent predictors of survival analyzed.

RESULTS: Overall 169 patients were included. 29 patients (17%) had unilobar metastases. There were 41 PNET – G1 (24%), 96 PNET-G2 (57%) and 32 PNET-G3 (19%). Nineteen patients (11%) underwent curative resection, 74 (44%) had palliative resection, and 76 (45%) underwent non-surgical treatment. Median overall survival (OS) from diagnosis was 73 months, with a 5-year OS of 59%. Patients who underwent curative resection had a significant better OS compared with those undergoing palliative resection or no resection (97 versus 89 versus 36 months, P=0.0001). Median PFS from diagnosis for the entire cohort was 21 months. Median PFS after curative resection was 42 months compared with 29 months in the palliative resection group, and 14 months in the no-resection group (P=0.015). Independent predictors of OS were the presence of bilobar metastases (HR: 2.724), PNEC-G3 (HR: 6.138) and curative resections (HR: 0.446). In a second model of multivariate analysis that categorized as a single variable all patients undergoing both curative and palliative resection (n=93), surgical treatment was an independent predictor of both OS (HR: 0.472) and PFS (HR: 0.666). Median OS from surgery was 89 months for these 93 patients. The presence of PNEC-G3 was the only factor independently associated with failure after surgery (median OS: 35 versus 97 months, P<0.0001) in this group.

CONCLUSION: Patients with synchronous LM from PNET benefit from surgical resection, although surgery should be reserved to well- or moderately-differentiated forms (PNET-G1 or G2). Patients with poorly differentiated PNET-G3 should be excluded from surgery.

S003 TRENDS IN HOSPITAL VOLUME AND FAILURE TO RESCUE FOR PANCREATIC SURGERY

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BACKGROUND: Multiple studies have demonstrated that patients undergoing high-risk procedures, such as pancreatic surgery, at higher volume institutions have improved outcomes. We sought to evaluate trends in the use of high-volume hospitals for pancreatic surgery, as well as examine trends in postoperative complications, mortality and failure to rescue (FTR).

METHOD: Patients who underwent pancreatic resection between 2000-2011 were identified from the Nationwide Inpatient Sample (NIS). Postoperative morbidity, mortality and FTR (i.e. death after major complication) were examined over time (2000–2003 vs. 2004–2007 vs. 2008–2011). Hospital volume was stratified into
tertiles (low, intermediate and high) based on the number of pancreatic resections per year for each time period. Logistic regression models were used to assess the effect of hospital volume on risk of complication, postoperative mortality, and FTR over time.

RESULT: Overall 35,986 patients were identified. Median hospital volume increased from 13 in 2000-2003 to 55 procedures/year in 2008-2011 (P<0.001). The incidence of complications was 49.4% in low-volume, 44.6% in intermediate-volume, and 38.1% in high-volume hospitals (P<0.001). Morbidity remained relatively the same over time at low-, intermediate-, and high-volume hospitals (all P>0.05). Overall postoperative mortality was 5%; mortality decreased over time across all hospital volumes (low volume, 2000-2003: 9.2% vs. 2008-2011: 5.9%; intermediate-volume, 2000-2003: 7.2% vs. 2008-2011: 3.3%; high-volume: 2000-2003: 3.9% vs. 2008-2011: 2.7%; all P<0.05).

FTR was more common at low- (12.0%) and intermediate- (8.5%) volume hospitals compared with high-volume hospitals (6.4%) (reference, high volume: low-volume, OR 2.0 vs. intermediate-volume, OR 1.39; P<0.001). Of note, the improvement in FTR over time was most pronounced at low- (2000-2003: 14.6% vs. 2008-2011: 10.6%) and intermediate- (2000-2003: 11.3% vs. 2008-2011: 7.0%) hospitals versus high-volume hospitals (2000-2003: 6.7% vs. 2008-2011: 6.1%) (P=0.001).

CONCLUSION: Median hospital volume for pancreatic surgery has dramatically increased over the past decade. While the incidence of morbidity has remained relatively stable over time, mortality has improved with the most pronounced decrease at low- and intermediate-volume hospitals. This improvement in mortality seems to be related to improvements in the ability to rescue patients from death after major complications.

S004 HLA CLASS I EXPRESSION AS A FAVORABLE PROGNOSTIC BIOMARKER IN PANCREATIC DUCTAL ADENOCARCINOMA (PDAC)
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BACKGROUND: PDAC continues to have a dismal prognosis. A growing body of evidence indicates that immunotherapy is effective in about 30% of cancer patients. A major obstacle to the success of immunotherapy is represented by the multiple escape mechanisms utilized by tumor cells to avoid recognition and destruction by the host’s immune system. Defects in the expression of HLA class I antigens by tumor cells facilitate their outgrowth by escaping T cell recognition. In this study we aimed to determine in a large cohort of patients whether PDAC patients can develop an immune response against their tumors and whether the immune response can be affected by defects of HLA class I and HLA class II antigens.

METHODS: Clinicopathological data were collected from 140 PDAC patients resected between 1998 and 2012. Three 3-mm cores per patient were removed from formalin-fixed, paraffin-embedded specimens, and used to assemble tissue microarrays (TMAs). TMAs were immunohistochemically stained with HLA class I-, HLA class II-, CD8-, CD4-, FoxP3- and granzyme B-specific monoclonal antibodies. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and HLA class II expression was scored as staining intensity and percentage of stained tumor cells. The number of CD8+, CD4+, FoxP3+ and granzyme B+ cells was calculated as the mean number of positive cells in four 20x random fields. HLA class I and
class II expression was correlated with the immune infiltrate as well as with the clinicopathological characteristics of the PDAC patients.

RESULTS: Median age was 68 years and 74 (53.0%) patients were male. The majority of patients had stage IIB disease (72.1%) and grade 2 tumors (63.5%). Median follow up was 20.0 months (range 3.0-153.0). All tumors had immune infiltrate (100.0%). The mean number of CD8+ cells was 22.5 (range 0.1-127.2), of granzyme B+ 22.2 (range 0.1-135.0), of CD4+ 11.0 (range 0.1-102.6) and of FoxP3+ 3.8 (range 0.1-26.7). HLA-B,C expression was absent in 5 (3.7%) and down-regulated in 92 (69.1%) patients. HLA-A expression was absent in 19 patients (14.2%) and down-regulated in 100 patients (74.6%). Aberrant HLA class II antigen expression was found in 71.0% of the patients analyzed: 67 (54.0%) and 21 (17.0%) tumors were scored as heterogeneous and positive, respectively. HLA-B,C expression positively correlated with the number of granzyme B+ \((P=0.0064)\) and CD8+ \((P=0.0082)\) cells. Number of CD8+, granzyme B+, CD4+ and FoxP3+ cells as well as HLA class II antigen expression did not correlate with patient survival. In contrast high HLA-B,C antigen expression was associated with longer patient survival \((P=0.0165)\).

CONCLUSIONS: Lymphocytic infiltrates were seen in all PDAC specimens analyzed suggesting that patients mount an immune response to their tumors. This immune response is affected by HLA class I antigen defects that correlate with a worse prognosis. These findings provide a sound rationale i) to consider HLA class I antigen expression as a prognostic biomarker in PDAC, ii) to implement immunotherapy in the treatment of PDAC and iii) to develop potential strategies which may enhance the PDAC patient’s immune response.

S005 A PROPOSAL FOR IMPROVED STAGING OF PANCREATIC DUCTAL ADENOCARCINOMA AFTER PANCREATICDUODENECTOMY

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INTRODUCTION/BACKGROUND: Surgery is the only potentially curative form of treatment for early disease pancreatic ductal adenocarcinoma (PDAC). Current staging of resected PDAC is based on the AJCC system. In this system stratification of survival is not optimal for the majority of patients as the best survival (Stage IA/IB) represents only the minority. We hypothesized that a new staging system could be developed that would better stratify survival among the entire population. We propose here a nomogram-based staging system that performs better than the current AJCC system in this regard.

METHODS: One thousand one hundred and thirty (1130) patients with PDAC who underwent a pancreaticoduodenectomy (PD) at a high-volume institution were included in this study. Survival curves were estimated using the Kaplan-Meier method with the Log Rank test to verify significance of differences. Variables statistically significant at univariate analysis were tested in the Cox model. The Cox model was used to develop a prognostic nomogram capable of predicting the OS of patients at
1, 3 and 5 years. An internal validation of the prognostic nomogram was performed Bootstrapping resample (n=5000).

RESULTS: Age (for ≥ 75 years, HR 1.431, 95% CI 1.220 –1.677, p< 0.001), number of harvested nodes (HR 0.986, 95% CI 0.978 –0.994, p< 0.001), number of positive nodes (HR 1.077, 95% CI 1.058 –1.096, p< 0.001), differentiation tumor grade (for moderate differentiate tumor, HR 1.673, 95% CI 1.076 – 2.601, p = 0.022; for poor differentiate tumor, HR 2.466, 95% CI 1.580 – 3.846, p < 0.001), margin status (for positive status, HR 1.324, 95% CI 1.152 – 1.522, p < 0.001), vascular resection (for performed, HR 1.377, 95% CI 1.097 – 1.729, p = 0.006), perineural invasion (for present, HR 1.598, 95% CI 1.208 – 2.115, p = 0.001), serum Ca. 19.9 (for ≥ 100 U/mL, HR 1.260, 95% CI 1.098 – 1.446, p < 0.001) were confirmed independent prognostic factor for the OS in the multivariate survival analysis. The prognostic ability of the model was tested using the Harrell's c-index. The model presented an index of 0.662 when the statistic was computed in the sample of those who underwent PD. A value of 0.656 was obtained in the internal validation with Bootstrapping resample (n=5000). The Harrell’s c-index for the AJCC system in the same analysis was 0.558. The patients were classified in the three classes of risk using the proposed model. The Low (89 patients, 7.8%), Medium (511 patients, 45.2%) and High (530 patients, 47.0%) classes of risk presented a survival at 3 years of 71.6% (95% CI, 62.0% -82.6%), 36.8% (95% CI, 32.6% -41.5%) and 14.0% (95% CI, 11.2% -17.5%), respectively. These differences were statistically significant (p < 0.001; See Figure).

DISCUSSION/CONCLUSION: Our prognostic nomogram for PDAC after PD showed good discrimination ability in an internal validation. The proposed staging system is better able to stratify survival among a large group of patients undergoing PD. Thenomogram is a useful tool able to improve the personalized management of patients with PDAC treated with pancreatic resection.
S006 PROPOSAL OF A NEW STAGING SYSTEM FOR AMPULLA OF VATER CANCER WITH HIGHER DISTINCTION ABILITY; MULTINATIONAL STUDY FROM EASTERN AND WESTERN

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INTRODUCTION: Because of its scarcity and relatively better prognosis, ampulla of Vater (AoV) cancer has not been well studied among periampullary carcinoma. AJCC staging system for AoV cancer was not revised since 2002. Until now, there has been little data to verify current staging system. Therefore, the authors built a multinational database of AoV cancer to provide a reliable dataset for proper staging.

METHODS: Between 1985 and 2013, 841 consecutive patients with AoV cancer who underwent curative surgery at Seoul National University Hospital (SNUH) and Johns Hopkins Hospital (JHH) were included in analysis. Based on the analysis of current AJCC 7th staging system, new staging system with better distinction ability was proposed.

RESULTS: Total of 440 patients from SNUH and 401 patients from JHH were included. Mean age of the patients was 63.1 years and male to female ratio was 1.2:1. Whipple’s operation was performed in 54.8% (n=461) and pylorus preserving pancreaticoduodenectomy was performed in 44.8% (n=377). R0 resection was achieved in 94.2% (n=792). Number of T stage was as follows; Tis (n=3), T1 (n=169), T2 (n=348), T3 (n=286), T4 (n=35). Proportion of T1 (28.9% vs. 10.5%) was higher in SNUH and T2 (33.2% vs. 50.4%) was more frequent in JHH (p<0.001). Lymph node (LN) metastasis was present in 44.6% (n=375). Node negative disease was more frequent in SNUH (65.9% vs. 42.4%, p<0.001). According to AJCC 7th staging, 5YSR of each stage was as follows; Stage IA (n=140, 80.3%), Stage IB (n=194, 60.9%), Stage IIA (n=115, 58.1%), Stage IIB (n=348, 36.6%), Stage III (n=33, 17.9%), Stage IV (n=4, 25.0%). Stage IB and IIA showed no statistical difference in 5YSR (p=0.556) while other stages were well discriminated. T2 (tumor invades the duodenal wall) and T3 (tumor invades pancreas) disease showed no survival difference in N0 disease (n=0.495). Number of metastatic LN (MLN) stratified prognosis well when classified as 0, 1, and ≥2 (p<0.001). Staging system was revised as follows, and T2 and T3 were treated on the same level: IA (T1, MLN0), IB (T2-T3, MLN0), IIA (T1-T3, MLN1), IIB (T1-T3, MLN≥2), III (any T4), IV (any M1). According to newly proposed staging system, each stage had statistically significant discrimination, including stage IB vs. IIA (p=0.009).

CONCLUSION: Current definition of stage T2 and T3 does not discriminate prognosis well. Considering there are little difference between the definition of T2 and T3, current T staging system should be revised. N stage can be classified according to number of MLN. Treating T2 and T3 on the same level and applying the number of MLN, newly proposed staging system has higher distinction ability. Based on this large database of AoV cancer from both Eastern and Western, we suggest our newly proposed staging system has more clinical relevance.
**S007 PARA-AORTIC LYMPH NODES METASTASES FROM DUCTAL ADENOCARCINOMA OF THE PANCREAS: DO THEY REALLY MAKE A DIFFERENCE?**

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**INTRODUCTION:** The prognostic impact of para-aortic lymph nodes (PALN) metastasis from pancreatic ductal adenocarcinoma (PDAC) is still nebulous. The aim of this study was to describe the prognostic significance of PALN metastases.

**METHODS:** Medical records of 71 patients undergoing pancreatic resection with PALN dissection for PDAC from January 2001 to December 2011 were reviewed retrospectively. Clinico-pathological factors and survival were analyzed.

**RESULTS:** Of the 71 patients considered, the patients were subdivided into three groups: N0 (absence of metastatic lymph nodes; n=8), N1/PALN- (at least 1 metastatic lymph-node but absence of metastatic spread to PALN; n=48), PALN+ (at least 1 metastatic PALN; n=15). On univariate analysis, PALN status (p=0.02), preoperative pain (p=0.043), and lymph node ratio (p=0.048) were significant predictors of overall survival (OS). In a multivariate analysis PALN+ status predicted overall survival (p=0.003). The 1- and 2-year survival rates of patients of the N1/PALN- and PALN+ groups were 87.5, 66.6% and 77.7, 26% respectively. The median OS was significantly different between N0 and N1 groups and between N1/PALN- and PALN+ groups: 45 months for N0 (95% CI 42-111 months), 30 months for N1/PALN- (95% CI 24.75-35.24 months) and 15 months for PALN+ (95% CI, 9.95-20.42).

**CONCLUSIONS:** The prognosis of patients suffering from PDAC with PALN metastasis from pancreatic ductal adenocarcinoma is poor. If PALN metastases are suspected preoperatively, then a frozen-section intraoperatively should be advocated. If positive, a radical resection should be abandoned.

**S008 LONG TERM SURVIVAL IN SURGICALLY RESECTED PANCREATIC CANCER: CHARACTERISTICS OF 10 YEAR SURVIVORS USING THE NATIONAL CANCER DATABASE.**

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**INTRODUCTION:** Pancreatic ductal adenocarcinoma (PADC) has a poor prognosis with less than one third of patients surviving 5 years following surgical resection. Since late disease recurrence is possible, 5-year survival does not equate a definitive cure. The primary objective of our work was to identify patient, tumor, surgical, and sociodemographic characteristics associated with 10-year survival following surgical resection for PADC.

**METHODS:** The National Cancer Database (NCDB) was queried for patients diagnosed with invasive PADC between 1998 and 2002 (ICD-O-3: 8140/3, 8500/3, 8021/3, 8035/3). Only patients who underwent pancreatic surgical resection aimed at removal of the primary tumor were selected. A multivariable logistic regression model of
factors significantly associated with LTS was developed and a nomogram predicting the likelihood of surviving ≥ 10 years from initial diagnosis was generated.

RESULTS: Of the 11,081 patients with complete survival information, 431 (3.9%) were long-term survivors (LTS) (≥10 years). Significant predictors of LTS included in order of importance: lymph node positivity ratio; adjuvant chemotherapy; pathological T stage; patient age; tumor grade; surgical margin; pathological M stage; tumor size; and educational and insurance status of patient’s zipcode. The model c-index was 0.768. Based on our nomogram, patients with the most favorable characteristics have an 18% chance of LTS. Furthermore, survival curves demonstrate that the probability of dying following initial diagnosis reaches a plateau around 10% per year after seven years of survival.

CONCLUSION: Although PADC remains a deadly disease, long-term survival is possible even beyond the 10 year mark. Our multivariable logistic regression model identified lymph node ratio, administration of adjuvant chemotherapy and pathologic T stage as being the top three variables associated with LTS. In addition, we developed an easy to use nomogram able to identify potential LTS among resected PADC.

S009 INTERNATIONAL MULTICENTER STUDY TO CHARACTERIZE THE INDIVIDUAL RISK OF MALIGNANCY IN BRANCH DUCT IPMN AND PROPOSAL OF NOMOGRAM

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BACKGROUND/PURPOSE: Although many clinical factors are used to predict malignancy in branch duct type intraductal papillary mucinous neoplasms (BD-IPMNs) according to consensus guideline, several variables have different statistical value and individual prediction of malignancy risk is impossible. The purpose of this study was to elucidate the malignant predictor and evaluate individual risk for malignancy and finally suggest nomogram for malignancy prediction of BD-IPMN using world largest DB of IPMN by Korea-Japan collaboration study group.
METHODS: We retrospectively analyzed the clinicopathological factors of 2,525 biopsy proven BD-IPMNs at 22 tertiary hospitals in Korea and Japan. We used stand DB format and definition for BD-IPMN to reduce hospital variation. Of these patients, we excluded the patients with main duct dilatation over 10mm and inadequate information.

RESULT: A total of 2,258 patients were finally enrolled in this analysis. Malignant IPMNs were defined as those with IPMN with high grade dysplasia and associated invasive carcinoma. 986 patients had low, 443 intermediate, 398 high grade dysplasia, and 431 invasive carcinoma. For nomogram construction and validation, we randomly assigned the patients into the training and validation set with keeping ratio of benign and malignancy. Through exhaustive searching using multiple logistic regression, five variables (cyst size, duct dilatation, mural nodule, serum CA19-9/CEA) were finally selected to construct nomogram. In validation set, this nomogram showed excellent discrimination power through 1000 times bootstrapped calibration test, and all predictions lie within a 10% margin of error.

CONCLUSIONS: We propose malignancy predicting nomogram for BD-IPMN using meaningful variables through logistic regression model. This nomogram could be useful to select optimal treatment method considering individual risk of malignancy.

S010 THE RISK OF MALIGNANCY IN 1,712 PATIENTS RESECTED FOR INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS (IPMN) OF THE PANCREAS: A REPORT FROM THE PANCREATIC SURGICAL CONSORTIUM

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OBJECTIVE: Controversy exists over the prevalence of malignancy in resected small branch-duct IPMN (BD-IPMN). Recent reports provide conflicting information, and have thus created confusion regarding treatment recommendations. The goal of the current study was to assess the grades of dysplasia and invasive carcinoma in a large series of resected IPMN.

METHODS: A database of resected IPMN was created by the merging of institutional databases of Memorial Sloan Kettering Cancer Center (MSKCC), Verona Pancreas Institute, Massachusetts General Hospital (MGH) and Johns Hopkins Hospital (JHH). Pathological and clinical features were analyzed.

RESULTS: A total of 1,712 patients underwent resection of an IPMN. 44% had BD-IPMN, 24% main duct IPMN (MD-IPMN) and 32% mixed-type IPMN (MT-IPMN). The distribution of dysplasia within the BD-IPMN was similar among institutions: high-grade dysplasia in 14% at MSKCC, 12% at MGH, 16% at Verona and 18% at JHH (p=0.23, Figure). The rates of invasive carcinoma were also similar: 11% at MSKCC, 11% at MGH, 24% at Verona and 16% at JHH (p =0.69). Only 3% of BD-IPMN less than 2 cm harbored invasive cancer, and the prevalence was similar among all four institutions.
CONCLUSION: This study is the largest series of resected IPMN yet to be reported. These data confirm that the rate of high-grade dysplasia or invasive carcinoma is low in small BD-IPMN and supports observation for small BD-IPMN.

(*Co-Senior Authors)

TUMOR-ASSOCIATED NEUTROPHILS AND MALIGNANT PROGRESSION IN INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS: AN OPPORTUNITY FOR IDENTIFICATION OF HIGH-RISK DISEASE. Eran Sadot, MD¹, Olca Basturk, MD¹, David S Klimstra, MD¹, Mithat Gonen, PhD², Anna Lokshin, PhD², Richard Kinh Gian Do, MD, PhD¹, Michael I D’Angelica, MD¹, Ronald P DeMatteo, MD¹, T. Peter Kingham, MD¹, William R Jarnagin, MD¹, Peter J Allen¹; ¹Memorial Sloan Kettering Cancer Center, ²University of Pittsburgh Cancer Institute, New York, US

OBJECTIVE: There is a strong link between Tumor-associated neutrophils (TAN) and malignant progression. Inflammatory mediators released by these cells may be a measurable surrogate marker of this progression. We evaluated the association of TAN with malignant progression in IPMN, and studied the cyst fluid from these lesions for biomarkers of the inflammation-carcinogenesis association.

METHODS: We evaluated 78 resected IPMN (2004-2013). Lesions were divided into low-risk (low and intermediate grade dysplasia: n=48) and high-risk (high-grade dysplasia and invasive carcinoma: n=30) groups. The number of TAN was assessed using the mean value of high power fields. Areas with <10 TAN/100 tumor cells were considered ‘negative’ and areas with 11–15 TAN/100 tumor cells were designated as ‘low’ while those with >15 TAN/100 tumor cells were regarded as ‘high’. A multiplexed assay was
performed to evaluate 87 different cyst fluid proteins, including cyst fluid inflammatory markers (CFIM), as possible surrogate markers for parenchymal inflammation.

RESULTS: Significant positive correlation between grade of dysplasia and TAN was found. High TAN were identified in 2%, 33%, and 89% of the lesions when stratified by grade of dysplasia into low/intermediate-grade dysplasia, high-grade dysplasia, and invasive carcinoma, respectively (p<0.001). Higher grades of dysplasia were also found to have positive correlation with 29 of the measured proteins, from which 23 (79%) were CFIM. Higher levels of TAN correlated with higher levels of 18 CFIM, from which 16(89%) were also found to be associated with higher grades of dysplasia. Multivariate analysis of clinical, radiographic, and molecular findings identified cyst fluid CA 72-4 to be an independent predictor for higher grades of dysplasia, regardless of the radiologic IPMN subtype.

CONCLUSIONS: In this study, TAN were strongly associated with malignant progression in IPMN. Measurement of CFIM may be a surrogate marker for IPMN progression and allow for identification of high-risk disease.

<table>
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<tr>
<th>Dysplasia and cyst fluid inflammatory markers stratified by Tumor-associated neutrophils (TAN) levels (n=77)</th>
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<tr>
<td>Low/intermediate-grade dysplasia (n=47)</td>
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<td>-----------------------------------------------</td>
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<tr>
<td>TAN negative (n=52)</td>
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<tr>
<td>TAN low (n=9)</td>
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<td>TAN high (n=16)</td>
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<td>Low/intermediate-grade dysplasia (n=47)</td>
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<td>IL-1α, pg/ml</td>
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<td>IL-1β, pg/ml</td>
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<td>sIL-2Rα, pg/ml</td>
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<td>IL-4, pg/ml</td>
</tr>
<tr>
<td>TNFα, pg/ml</td>
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<td>INFγ, pg/ml</td>
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S012 THE NATURAL HISTORY OF NON-RESECTED IPMN OF THE PANCREAS: A SINGLE INSTITUTION EXPERIENCE. Marco Del Chiaro, MD, PhD, FACS, Ralf Segersvärd, MD, PhD, Linda Nilsson, John Blomberg, MD, PhD, Elena Rangelova, MD, Christoph Ansorge, MD, PhD, Raffaella Pozzi Mucelli, MD, Nikolaos Kartalis, MD, PhD, Matthias Löhr, MD, PhD, Caroline Verbeke, MD, PhD; Karolinska Institutet, Stockholm, SE

INTRODUCTION: IPMN of the pancreas is highly prevalent in the general population. The strategy of following up the majority of these patients is currently considered best clinical practice, even though consensus regarding an appropriate follow-up interval is lacking. Aim: This study analyzes the results of a follow-up program for patients with IPMN.

METHODS: From January 2008 to December 2013, 503 patients diagnosed with IPMN were observed at the Pancreas Unit of Karolinska Institute. 452 patients (89.8%) were followed-up, while 51 (10.2%) underwent surgery. The patients under follow-up represented the study series population.

RESULTS: Overall, 258 (57%) females and 194 males (43%) were analyzed. The mean patient age was 67.3 yrs, the mean follow-up 932 days. 395 of the patients (87.4%) were under surveillance according to the prevailing guidelines (group 1), whereas 57 (12.6%) patients (group 2) were followed-up because of contraindications for surgery (poor general condition, locally advanced or metastatic IPMN cancer, synchronous other extrapancreatic cancer. In group 1, 55 patients (13.9%) required surgery for progression of their IPMN after a median follow-up of 560 days. In 2 patients (0.5%), a synchronous pancreatic cancer developed during follow-up. The 1, 3 and 5 years survival rate for the patient series was 96.5%, 92.4% and 87.1%, respectively. In group 1, 33 patients (8.3%) died under follow-up: 4 (1%) due to IPMN progression, 5 (1.3%) because of extrapancreatic cancer and 24 (6%) for other causes. The 1, 3 and 5 years survival rate in group 2 were 74.8%, 48.7% and 40.5%, respectively. In this group 22 patients (38.6%) died due to IPMN progression (10, 17.5%), extrapancreatic cancer (5, 8.8%), or for other reasons (7, 12.3%).

CONCLUSIONS: This study confirms the safety of a surveillance program for patients with non-surgical IPMN. Incidence of pancreatic cancer and IPMN-related mortality were low during follow-up. Even if patients with an indication for surgical treatment were for excluded from surgery for various reasons, survival was acceptable, particularly when compared with pancreatic cancer patients.

S013 THE IMPACT OF RURALITY AND ACCESS TO GASTROENTEROLOGISTS ON DISPARITIES IN PANCREAS CANCER STAGING AND MORTALITY Whitney Zahnd, MS, Bridget Kistner, BS, Aman Ali, MD, John D Mellinger, MD, Sabha Ganai, MD, PhD; Southern Illinois University, Springfield, US

BACKGROUND: Despite recent impetus towards regionalization of pancreatectomy to high-volume centers, rural disparities have not been explored for pancreas cancer outcomes. Analysis of the National Cancer Database showed less than one third of patients with resectable disease actually undergo surgery, suggesting opportunities for improvement in global systems related to pancreas cancer care, including appropriate referral for surgical resection. This study explores the impact of rurality, gastroenterologist (GI) density, and proximity to providers who perform endoscopic ultrasound (EUS) on staging and mortality-incidence ratio (MIR) for pancreas cancer.
METHODS: Age-adjusted pancreas cancer incidence and rates of unstaged cancers were calculated for each county using 1991-2010 Illinois State Cancer Registry data. Age-adjusted mortality rates were calculated using SEER*STAT. Choropleth maps were created to illustrate MIRs by county using ArcGIS. GI density for each county was calculated from the US Area Health Resource File. Unique providers who perform EUS were identified and their locations geocoded for spatial analysis to calculate the shortest driving distance from each county centroid to the nearest provider. USDA Economic Research Service rural-urban continuum codes (RUCC) and US census percent rurality data were used to designate county rurality and adjacency to metro counties. US Census Bureau county-based education, insurance, income, and poverty data were used to determine socioeconomic deprivation levels. Chi-square, ANOVA, and Spearman’s rho calculations were performed.

RESULTS: A greater proportion of counties with high MIR were in Southern, more rural, Illinois. Unstaged pancreas cancer rates exceeding 19% were seen in 42 out of 102 Illinois counties (41%); 86% of these were rural. Twenty-one out of 24 counties (88%) with a MIR exceeding 1.0 were rural. No GIs were located in 65 out of 102 Illinois counties (64%), with a mean density of 1.0 per 100,000. Twenty-eight unique locations were identified with EUS-trained providers. Significant differences in percent rurality, socioeconomic deprivation, income, poverty level, uninsured rates, and educational status were noted between counties with or without GIs, and counties greater or less than 60 miles from an EUS provider. Mean driving distance to an EUS provider was 30±22 miles in metro counties (n=36), 59±31 miles in rural counties adjacent to metro counties (n=33), and 97±30 miles in rural counties non-adjacent to metro counties (n=33; p<0.001). Unstaged pancreas cancers inversely correlated with GI density (Spearman’s rho=-0.20; p<0.05) and positively correlated with distance from EUS providers (Spearman’s rho=0.34; p<0.001). MIR correlated with percent rurality (Spearman’s rho=0.23; p<0.05), was predicted by RUCC category, and was significantly greater in rural regions not adjacent to metro counties (p<0.05). The proportion of unstaged pancreas cancers was also predicted by RUCC category and was significantly greater in rural counties not adjacent to metro counties (p<0.01).

CONCLUSIONS: Higher proportions of unstaged pancreas cancer and higher MIR were noted in rural regions, which may be influenced by the availability of gastroenterologists or other specialty services. Distance from EUS providers correlated with rurality and socioeconomic deprivation. Further exploration of the impact of distance from surgical providers and high-volume cancer centers on rural pancreas cancer outcomes is warranted.

S014 ADHERENCE TO EXPECTED TREATMENT FOR PANCREATIC CANCER IMPROVES OUTCOMES

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PURPOSE: National Cancer Database (NCDB) analysis from 1995-2004 showed 70% of patients with stage I pancreatic adenocarcinoma (PDA) did not have surgery. We sought to analyze adherence to expected treatment (ET) by stage for PDA and identify factors that led to no treatment (NT) or unexpected treatment (UT) in a recent cohort.

METHODS: Using our Cancer Registry (CR) that populates the NCDB, we identified patients with PDA from 2004-2013. ET was defined as surgery±chemotherapy(CTX)±r...
radiation (XRT) (stage I & II), CTX ± XRT (stage III), and CTX (stage IV). UT was defined as no surgery (I & II), surgery (III), or ±surgery±XRT (IV).

RESULTS: 2341 patients were identified (I=4%, II=47%, III=11%, & IV=38%): NT=24%; ET=58%; UT=18%. Stage at diagnosis predicted survival. 1191 patients had resectable PDA (I & II): NT=15%; ET=50%; UT=27%. ET demonstrated the best overall survival, but UT had better survival than NT (p<.0001). Of the 183 I & II patients in the NT group, 57 (31%) refused surgery and 37 (20%) were deemed poor surgical candidates. Abstracted charts were concordant with 94% of CR for non-surgical I & II. 261 patients had unresectable PDA (III): NT=18%; ET=70%; UT=12%. Unexpectedly, survival was best in UT, but ET had a survival advantage over NT (p<.0001). 896 patients had metastatic PDA (IV): NT=36%; ET=55%; UT=9%. NT had worse survival than ET and UT (p<.0001). Compared to ET, patients receiving NT were older (p<.05). Males and Caucasians were more likely to receive treatment in select groups. IV was associated with a higher rate of NT, and I & II were associated with a higher rate of UT (p<.003). ET was not affected by tumor location, but head lesions had higher rates of UT (p<.004).

CONCLUSIONS: Unlike previous reports, the majority of patients with early stage disease had surgery. ET and UT were associated with better survival than NT in all stages. Older age was associated with NT. The higher proportion of UT in the resectable group may reflect neoadjuvant intent to treat, and better survival in stage III UT may reflect downstaging after neoadjuvant therapy, allowing for resection. Similar analysis using NCDB would offer interesting comparisons to tertiary high volume centers.

S015 TRENDS IN RECEIPT AND TIMING OF MULTIMODALITY THERAPY IN EARLY STAGE PANCREATIC CANCER

Francesca M Dimou, MD 1, Helmneh Sineshaw, MD, MPH 2, Abhishek D Parmar, MD, MS 3, Nina P Tamirisa, MD, MS 1, Daniel Jupiter, PhD 1, Ahmedin Jemal, DVM, PhD 2, Taylor S Riall, MD, PhD 1; 1University of Texas Medical Branch, 2American Cancer Society, 3University of San Francisco-East Bay, Houston, US

INTRODUCTION: For patients with locoregional pancreatic cancer multimodality therapy (MMT) with surgical resection and chemotherapy is the standard of care. The objective of this study was to evaluate contemporary treatment patterns and time trends in receipt of multimodality therapy and timing of chemotherapy relative to surgery in patients undergoing MMT for locoregional pancreatic cancer.

METHODS: We used the National Cancer Data Base (NCDB) to identify patients >18 years of age with stage I and II pancreatic adenocarcinoma (excluding T3 tumors). Treatment groups were defined as no treatment, surgical resection only, chemotherapy only, or MMT with chemotherapy (neoadjuvant or adjuvant) and surgery. Trends in receipt of surgery, chemotherapy, or MMT were compared. Kaplan-Meier curves were used to evaluate survival based on treatment modality.
RESULTS: A total of 39,441 patients were identified. The mean age of the cohort was 68.1±11.6 years. 73.6% were white; 40.1% were treated at a community center/cancer program. 22.8% of patients received no treatment. Patients ≥76 years of age had lower receipt of treatment compared with those aged 15-55 years (54.8% vs. 90.6%) (p<0.0001). Community cancer programs (68.8%) and community cancer centers (72.1%) were less likely to treat patients than NCI-designated Cancer Centers (85.2%, p<0.0001). Of 30,445 treated patients, 29.8% underwent only surgical resection, 23.9% received chemotherapy only, and 46.3% received MMT. Receipt of MMT increased from 31.3% of the overall cohort in 2004 to 37.9% in 2011 (p<0.0001) (Figure 1). Chemotherapy was delivered in the neoadjuvant setting in 4.5% of patients receiving MMT in 2004 and 16.7% in 2011 (p<0.0001). Neoadjuvant therapy comprised a greater proportion of MMT at NCI cancer centers (16.8%) compared to community cancer programs (5.6%) and comprehensive community cancer centers (7.9%). In patients who underwent surgery at the initial treatment modality (N=21,633), 58.1% received adjuvant therapy; adjuvant therapy decreased from 68.4% of patients 18-55 to 38.3% of patients ≥76 years who underwent surgery first. Regardless of the timing of chemotherapy, patients had improved survival if they received MMT; 2-year survival was 46.9% for MMT (46.5% adjuvant vs. 49.5% neoadjuvant).

CONCLUSION: In this contemporary cohort, receipt of MMT increased over time, but remained underutilized. Older patients and patients treated in community programs were more likely to be untreated. Despite multiple single-institution reports, MMT is still most commonly delivered in the adjuvant setting, though the proportion of MMT delivered in the neoadjuvant setting is increasing. When surgery is the initial treatment modality, a third of patients do not go on to receive adjuvant therapy with the greatest disparity occurring in older patients.
ORAL ABSTRACTS

S016 PANCREATEO gastros tomy versus panc reatojejunostomy for reconstruction after pancreatoduodenectomy (RECOPANC) - RESULTS OF A MULTICENTER RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Two main methods of reconstruction, pancreatojejunostomy and pancreatogastrostomy have been established. Almost all retrospective as well as some prospective trials suggest superiority of the PG regarding perioperative complications such as postoperative pancreatic fistula.

METHODS: A multicenter prospective randomized controlled trial comparing PG to PJ was conducted involving 14 German high-volume academic centers for pancreatic surgery. The primary endpoint was clinically relevant postoperative pancreatic fistula (grade B or C according to the International Study Group for Pancreatic Surgery definition). Secondary endpoints comprised perioperative outcome as well as pancreatic function and quality of life measured at 6 and 12 months follow-up.

RESULTS: From May 2011 to December 2012, 440 patients were randomized, and 320 were included in the intention-to-treat analysis. There was no significant difference in the rate of grade B/C fistula after pancreatogastrostomy versus pancreatojejunostomy (20% versus 22%, p=0.617). The overall incidence of grade B/C fistula was 21%, and the in-hospital mortality was 6%. Multivariate analysis of the primary endpoint disclosed soft pancreatic texture (Odds Ratio 2.1, p=0.016) as the only independent risk factor. Compared with pancreatojejunostomy, pancreatogastrostomy was associated with an increased rate of non-severe bleeding events, perioperative stroke, better long-term exocrine function and improved results in some quality of life parameters.
CONCLUSIONS: The rate of grade B/C fistula after pancreatogastrostomy versus pancreatojejunostomy was not different. Morbidity after pancreateoduodenectomy reconstruction is underestimated, even in the high-volume center setting. Exocrine function deteriorates after pancreateoduodenectomy, to a slightly lesser degree after reconstruction via pancreatogastrostomy compared to pancreatojejunostomy.

**S017 RANDOMIZED CLINICAL TRIAL OF DUCT-TO-MUCOSA PANCREATICOGASTROSTOMY OF PANCREATIC STUMP VERSUS HAND-SEWN CLOSURE AFTER DISTAL PANCREATECTOMY**  
Kenichiro Uemura, MD¹, Sohei Satoi, MD, FACS², Fuyuhiko Motoi, MD³, Yasushi Hashimoto, MD¹, Hiroaki Yanagimoto, MD³, Koji Fukase, MD³, Naru Kondo, MD¹, Tomohisa Yamamoto, MD², Yu Katayose, MD³, Masanori Kwon, MD², Michiaki Unno, MD³, Yoshiaki Murakami, MD¹; ¹Surgery, Hiroshima University, ²Surgery, Kansai Medical University, ³Surgery, Tohoku University, Hiroshima, JP

BACKGROUND: Postoperative pancreatic fistula (POPF) remains the main morbidity after distal pancreatectomy (DP). The aim of this study was to investigate whether duct-to-mucosa pancreaticogastrostomy (PG) of pancreatic stump would decrease clinical POPF compared with a hand-sewn closure (HSC) after DP.

METHODS: This multicenter, randomized, control trial was done between April 2012 and June 2014. Patients with pancreatic diseases undergoing DP were randomly assigned by central randomization before surgery to either PG or HSC. Primary endpoint was the incidence of clinical POPF. Secondary endpoints were rate of other complications and hospital stay.

RESULTS: In total of 73 patients were included in the final analysis, 36 patients in the PG and 37 patients in the HSC group. Duration of operation was significantly longer in the PG group than in the HSC group (268 versus 197 min; P<0.001). The incidence of clinical POPF did not differ between PG and HSC (19 versus 19 per cent; p=1.000). Rate of intra-abdominal fluid collection was significantly lower in the PG group than in the HSC group (17 versus 54 per cent; P=0.001).There were no significant difference in the rate of other complication or hospital stay between the groups.

CONCLUSIONS: This study demonstrated that PG does not reduce the incidence of clinical POPF compared with HSC. Registration number UMIN000007426 (http://www.umin.ac.jp)

**S018 DISTAL PANCREATECTOMY WITH CELIAC AXIS RESECTION: WHAT ARE THE ADDED RISKS?**  
Joal D Beane, MD¹, Henry A Pitt, MD², Michael G House, MD¹, Susan C Pitt, MD, MPH¹, E M Kilbane, RN¹, Bruce L Hall, MD, PhD, MBA³, Abhishek Parmer, MD⁴, Taylor S Riall, MD, PhD⁴; ¹Indiana University School of Medicine, ²Temple University School of Medicine, ³Washington University School of Medicine, ⁴University of Texas Medical Branch, Philadelphia, US

BACKGROUND: Surgeons have become aggressive at operating on tumors of the body of the pancreas which require resection of the celiac axis (Appleby procedure). Reported series are small and not adequately controlled. Thus, sufficient data to judge the morbidity and mortality of celiac axis resection have not been available. The aim of this analysis was to report a large series of Appleby procedures with a comparison group to determine the relative risk.
METHODS: Data were gathered through the American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP), Pancreatectomy Demonstration Project (PDP). Over 14 months, 822 patients underwent a distal pancreatectomy (DP) at 43 institutions. Twenty of these patients (2.4%) also underwent celiac axis resection (CAR). Appleby procedure patients were then matched by age, gender, BMI, serum albumin, ASA class, gland texture, duct size and pathology to 180 patients undergoing DP without CAR. Outcomes were determined by ACS-NSQIP and PDP definitions. Operative and postoperative outcomes were compared by Fisher’s Exact and Wilcoxon tests.

RESULTS: The median age of the DP and DP+CAR patients was 65 and 64 years, respectively. Most patients were female (67 and 70%). The mean BMI of the two groups was identical (27.1 kg/m2). The majority of patients had adenocarcinomas (63 and 60%) or neuroendocrine tumors (13 and 15%). Operating Room (OR) and postoperative outcomes were:

CONCLUSIONS: Distal pancreatectomy with celiac axis resection is associated with increased operative time as well as significant increases in acute renal failure and operative mortality. The decision to offer an Appleby procedure should be made in very carefully selected patients with full disclosure of the increased risks.

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**EARLY NATIONAL EXPERIENCE WITH LAPAROSCOPIC PANCREATICODUODENECTOMY (LPD) FOR DUCTAL ADENOCARCINOMA (PDCA): A COMPARISON OF LPD AND OPEN PANCREATICODUODENECTOMY (OPD) FROM THE NATIONAL CANCER DATA BASE**

Susan M. Sharpe, MD1, Mark S. Talamonti, MD2, Edward Wang, PhD3, Richard A. Prinz, MD1, Kevin K. Roggin, MD1, David J. Bentrem, MD1, David J. Winchester, MD2, Robert D. Marsh, MD4, Susan J. Stocker, CCRP5, Marshall S. Baker, MD, MBA6; 1University of Chicago Pritzker School of Medicine, 2NorthShore University HealthSystem, 3Northwestern University Feinberg School of Medicine, Chicago, US

INTRODUCTION/BACKGROUND: Studies examining outcomes from the laparoscopic approach to PDCA in the pancreatic head have been small, single institution retrospective reviews. There is substantial debate regarding the safety of LPD and the clinical equivalence of LPD to OPD for PDCA.

METHODS: We queried the NCDB to identify patients undergoing LPD and OPD for PDCA between 2010 and 2011. Chi square and student’s t-tests were used to evaluate differences between the two approaches. Multivariable logistic regression modeling (MVR) was performed to identify patient, tumor, or facility factors associated with perioperative mortality.

RESULTS: 4,037 patients (91%) underwent OPD. 384 patients (9%) underwent LPD. There were no statistical differences between the two surgical cohorts with regard to age, race, Charlson score, insurance status, tumor size, pathologic grade, stage, or

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**S019 EARLY NATIONAL EXPERIENCE WITH LAPAROSCOPIC PANCREATICODUODENECTOMY (LPD) FOR DUCTAL ADENOCARCINOMA (PDCA): A COMPARISON OF LPD AND OPEN PANCREATICODUODENECTOMY (OPD) FROM THE NATIONAL CANCER DATA BASE**

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**ORAL ABSTRACTS**

Oral Abstracts
treatment with neoadjuvant chemoradiotherapy. LPD demonstrated a statistically shorter length of stay (LOS) (10±8 vs 12±9.7 days, p<0.0001) and lower rates of unplanned readmission (5% vs. 9%, p=0.027) than OPD. There was an increased rate of 30-day mortality in the LPD cohort although this did not reach statistical significance (5.2% vs. 3.7%, p=0.163). MVR predicting peri-operative mortality controlling for age, Charlson score, tumor size, nodal positivity, stage, facility type, and pancreaticoduodenectomy (PD) volume identified age (HR 1.05, p<0.0001), positive margins (HR 1.45, p=0.030), and LPD (HR 1.89, p=0.009) as associated with an increased probability of 30-day mortality; higher hospital volume was associated with a lower risk of 30-day mortality (HR 0.98, p<0.0001). The difference in mortality seen with LPD appeared related to procedure volume. In institutions that had performed >10 LPD, the 30-day mortality rate of the laparoscopic approach was equal to that for the open approach (0.0% vs 0.7%, p=1.00).

DISCUSSION/CONCLUSION: LPD is equivalent to OPD in LOS, margin-positive resection, lymph node count, and readmission rate. There is an observed trend toward a higher 30-day mortality rate with LPD but this appears driven by a surmountable learning curve for the procedure.

SO20 PROSPECTIVE TRIAL OF 200 CONSECUTIVE PANCREATICO-DUODENECTOMIES WITH THE FINNISH BINDING PANCREATICOJEJUNOSTOMY (FBPJ): A LOW FREQUENCY OF PANCREATIC FISTULA.  
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BACKGROUND: Post-operative pancreatic fistula (POPF) remains the most challenging complication after pancreaticoduodenectomy (PD). We have developed a novel Finnish binding pancreatico-jejunal anastomosis (FBPJ), where the mobilized pancreatic stump is slid 2-3 cm inside the jejunal limp with the aid of 6-8 peripancreatic sutures, after which the bowel is tightened over the pancreas with a purse string. The aim of this prospective trial was to analyze the outcome of 200 consecutive PDs with this novel anastomosis.

METHODS: 202 consecutive patients underwent PD in Tampere University Hospital. FBPJ was technically achievable in all but two (99%). Prospective follow-up included repeated serum and drain output measurements and daily urine trypsinogen test. POPF, hemorrhage (PPH) and delayed gastric emptying (DGE) were defined strictly according to the International Study Group classifications.

RESULTS: 30-day mortality was 1.5%. The incidence of clinically relevant Grade B-C POPF was 6.8%. PPH occurred in 1.2-0.5-6.3% (Grade A-B-C) and DGE in 33-12-3.7% (Grade A-B-C) of the patients. 33% developed clinically relevant post-operative trypsinogen release (positive ≥2 days; suggesting mild pancreatitis), which had a moderate correlation (Pearson 0.52) to Grade B-C POPF and a weak correlation (Pearson 0.25) to Grade B-C DGE.

CONCLUSIONS: The rate of clinically relevant POPF is decreased to 6.8% with the novel FBPJ. This is low compared to our historical controls (15%) and results from others. Even though a randomized trial is warranted, based on this prospective trial of 200 consecutive patients it is a safe and secure technique and can be recommended for routine pancreatico-jejunal anastomosis after PD.
S021 MESOPANCREATIC TUMOR STROMAL-NEGATIVE RESECTION DEFINES RADICAL RESECTION OF PANCREATIC HEAD CANCER AND CAN BE PREDICTED BY PREOPERATIVE RADIOLOGIC PARAMETERS

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BACKGROUND: Pancreatic ductal adenocarcinoma (PDAC) is usually characterized by a dense desmoplastic stroma and diffuse growth pattern. Peritumoral inflammation and fibrosis are often evident during surgery and usually only distinguishable from tumor by microscopic examination. Recent studies have demonstrated a high detection rate of incomplete resections when standardized workup and criteria were employed for pancreateoduodenectomy specimen. The aim of this study was to investigate the role of peritumoral stroma as a criterion for radical resection.

PATIENTS AND METHODS: Tumor stromal resection status (S-Status) was defined as the presence or absence (S+ / S0) of fibrotic or desmoplastic tissue at the mesopancreatic resection margin. Detailed retrospective clinicopathologic re-evaluation of margin status and preoperative cross-sectional imaging was performed in a cohort of 91 patients operated for pancreatic head PDAC from 2001 to 2011.

RESULTS: Conventionally margin positive resection (R+) was found in 36% and significantly associated with reduced median survival (20 vs 27 months, p=0.035). However, S-Status further divided the negative margin (R0) group into patients with median survival of 14 months (S+) versus 31 months (S0, p=0.005). Median survival in patients without lymph node metastasis (N0) and S0 resection was 41 months, compared to 16 months with S+ resection (p=0.029). Overall rate of S+ resection was 53%. In multivariate analysis, S-Status constituted the only significant predictor of survival after resection among all standard demographic and histopathologic parameters (T and N stage, lymph node ratio, lymph/hemangiosis, perineural invasion, grading and R-Status). Exemplary three-dimensional reconstruction of the mesopancreatic margin at microscopic level disclosed a consistent association of cancer cells with fibrotic stroma. A panel of 6 preoperative radiological parameters characterizing mesopancreatic tissue achieved a 82% correct prediction of S-Status in a multivariate prediction model.

CONCLUSION: Complete removal of tumor cells and concomitant fibrotic stroma seems to be a determinant of curative resection in PDAC, but is achieved in less than half of patients. In addition, preoperative prediction of non-curative resection by cross-sectional imaging is possible, hence a redefinition of borderline resectable PDAC advocating neoadjuvant therapy might be discussed. Independent and prospective evaluation is necessary.
S022 LEAKAGE OF AN INVAGINATION PANCREATICOJEJUNOSTOMY MAY HAVE LETHAL CONSEQUENCES

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BACKGROUND: No consensus exists regarding the most effective form of pancreaticojejunostomy (PJ) following pancreatoduodenectomy. A paucity of high level and multi-institutional data has led to a debate regarding the merits of duct-to-mucosa and invagination PJ. The aim of this analysis was to determine whether the type of pancreaticojejunostomy influences morbidity or mortality.

METHODS: Data were gathered through the American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP), Pancreatectomy Demonstration Project (PDP). Over 14 months, 1,781 patients underwent a pancreatoduodenectomy (PD) at 43 institutions. After exclusion of patients undergoing minimally invasive PD and those without information on gland texture or duct size, 890 patients were analyzed. Patients were divided into duct-to-mucosa (n=734, 82%) and invagination (n=156, 18%) groups. Type of pancreaticojejunostomy (PJ) was then included in eight separate morbidity and mortality multivariable analyses. Outcomes were determined by ACS-NSQIP and PDP definitions.

RESULTS: Invagination patients had higher serum albumin (p<0.01) lower BMIs (p<0.01) and preoperative serum bilirubin (p<0.02), were less likely to have a preoperative biliary stent (p<0.01) or chemotherapy (p<0.04), were more likely to have a soft gland (p<0.01) and were less likely to undergo pylorus preservation (p<0.01). Multivariable analyses demonstrated that age, gender, BMI, preoperative albumin and biliary stents, gland texture and pancreatic duct size were related (p<0.05) to multiple postoperative morbidity outcomes. PJ anastomosis type was not associated with morbidity but did affect mortality (duct-to-mucosa vs. invagination Odds Ratio 0.22, p<0.01). Among patients who developed a pancreatic fistula, none of the 119 duct-to-mucosa compared to five of 20 invagination patients died (p<0.01).

CONCLUSIONS: Patients who undergo a pancreaticojejunostomy (PJ) by duct-to-mucosa or invagination differ with respect to several pre- and intraoperative variables. The type of PJ does not influence morbidity, but duct-to-mucosa PJ is associated with reduced mortality. When an invagination pancreaticojejunostomy leaks, the consequences may be lethal.

S023 LONG TERM ONCOLOGIC OUTCOMES AFTER ROBOTIC RESECTIONS ARE NOT INFERIOR TO OPEN FOR PANCREAS CANCER

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INTRODUCTION: Recent data suggests that receipt of 6 cycles of adjuvant therapy rather than time to initiation improves survival after resected pancreatic adenocarcinoma (PDA). Recent reports also suggest that complications after pancreatectomy prohibit the complete and timely administration of adjuvant chemotherapy. We sought to examine if the effect of robotic pancreatectomy on postoperative chemotherapy receipt, cycle administration, and survival was better compared to open pancreatectomy.
METHODS: A retrospective review of all patients with PDA who underwent robotic or open pancreaticoduodenectomy (PD) or distal pancreatectomy (DP) from 2008-2013.

RESULTS: 458 patients underwent resection: open PD=324 and DP=45 vs robotic PD=59 and DP=30. Adjuvant chemotherapy was administered to a higher percentage of patients after robotic pancreatectomy vs open pancreatectomy (79% vs 68%; p<0.03). Average adjuvant cycles completed (All=5.3±2; p=0.23) and proportion of patients with ≥6 cycles (All=66%; p=0.779) were similar in all 4 groups. Surgical approach (robot vs open; p=0.17) and surgical procedure (PD vs DP; p=0.43) did not have a survival advantage even when adjusted for chemotherapy. Median overall survival (OS) was the same in all groups. However, patients who received adjuvant chemotherapy had a longer OS compared to those who did not (31 vs 13 mos; p <0.0001). Specifically, patients who received ≥6 cycles had longer OS compared to < 6 cycles or no chemotherapy (38 vs 19 vs 13 mos, p<0.0001). Median disease free survival (DFS) was significantly increased in patients who received adjuvant chemotherapy (26 vs 14 mos, p<0.0001). On multivariate analysis, ≥6 cycles was a strong predictor of DFS [hazard ratio 0.40, p<0.0001].

CONCLUSIONS: Robotic resections for PDA results in equivalent oncologic outcomes compared to open surgery. Patients who undergo robotic pancreatectomy do progress to adjuvant chemotherapy more than open resection as hypothesized. Completion of ≥6 cycles of adjuvant chemotherapy is the best modifiable predictor of survival. As the robotic experience grows we will gain power to show a survival advantage.
AFTER PANCREATECTOMY EPIDURAL DYSFUNCTION INCREASES POSTOPERATIVE COMPLICATIONS

INTRODUCTION: Epidural analgesia can be effective to manage postoperative pain after major abdominal surgery. In a nationwide retrospective study by Amini et al. (Am J Surg 2012), epidural analgesia was associated with significantly lower postoperative complications, shorter length of hospital stay, and lower total charges after pancreaticoduodenectomy (PD). A higher incidence of post-PD complications was noted by Pratt et al. (J Gastrointest Surg 2008) if an epidural catheter had to be discontinued before postoperative day (POD) 4 due to hypotension and/or inadequate analgesia. The aim of this study was to seek if there is a relationship between dysfunctional epidural analgesia and complications after pancreatectomy – either pancreas-related or non-pancreas-related.

METHODS: Between August 2010 and October 2014, 99 patients underwent pancreatectomy at the St. Luke’s Health system. Nine patients who underwent laparoscopic pancreatectomy and 28 patients who did not receive epidural analgesia were excluded. Seventy-one patients (72%) who underwent open pancreatectomy with epidural analgesia were investigated (PD in 49 patients and distal pancreatectomy in 22 patients). Median age was 65 [range, 21-85]). Preoperatively thoracic epidural catheters were placed within the T5-T9 interspace level and patient-controlled epidural analgesia was started postoperatively. Epidural dysfunction was defined as either hypo-function or hyper-function. Hypo-function included epidural replacement due to inadequate pain control, conversion from epidural analgesia to intravenous patient-controlled analgesia ≤ POD 4, or intravenous bolus narcotics use ≤ POD 4. Hyper-function included hypotension or oliguria that required intravenous fluid bolus or reduction/discontinuation of epidural infusion.

RESULTS: Of the 71 open pancreatectomy patients with epidural analgesia, the rates of complications were: overall complications 55%, pancreas-related complications 30% (such as pancreatic fistula and delayed gastric emptying), and non-pancreas-related complications 41%. Epidural dysfunction was observed in 49%: hypo-function in 35% and hyper-function in 14%. Significant independent prognostic factors after multivariate risk analysis were - overall complications (higher age as a continuous variable, P =0.021, men, P =0.030, and epidural dysfunction, P =0.004); pancreas-related complications (epidural dysfunction, P =0.045); and non-pancreas-related complications (higher age as a continuous variable, P =0.018, and epidural dysfunction, P =0.002).

CONCLUSIONS: With half of our epidural analgesia attempts being successful an opportunity for statistical analysis emerged in 71 cases. Epidural dysfunction was related to the development of both pancreas-related and non-pancreas-related complications. The reason why epidural analgesia improves patient outcomes after pancreatectomy is multifactorial but improving an institution’s success with epidural analgesia may be an opportunity to improve surgical outcomes.
**S025 LYMPHADENECTOMY FOR PERIAMPULLARY CANCER: PROGNOSTIC ROLE OF DIFFERENT METASTATIC NODAL STATIONS AND OF THE NUMBER OF METASTATIC LYMPH NODES.**

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**INTRODUCTION:** The prognostic impact of lymph node (LN) involvement after Pancreatoduodenectomy (PD) for cancer has been well established. Two pathological staging systems for periampullary tumours are currently used: the Union International of Cancer Control (UICC) system, adopted in Western countries and the Japanese Pancreatic Society (JPS) system, adopted in Asiatic countries. JPS staging, in contrast with the UICC system, considers the involvement of the different nodal stations with N1 representing positive peripancreatic lymph nodes and N2 positive distant lymph nodes. None of the two staging systems considers the number of metastatic LN.

The primary aim of this retrospective multicentric study is to evaluate the prognostic impact of the different metastatic LN stations by applying the JPS staging system. The secondary aim is to evaluate the prognostic impact of the number of metastatic LN and of LN ratio (LNR).

**MATERIAL AND METHODS:** All patients treated with PD from 2008 to 2014 for periampullary tumours at Campus Bio-Medico University of Rome and Edouard Herriot Hospital were evaluated. In all cases standard lymphadenectomy was performed and the JPS staging system was applied. The relationship between N0, N1 and N2 stages with Overall Survival (OS) and Disease Free Survival (DFS) was evaluated. Moreover, we analyzed the prognostic impact of the number of positive LN and of LNR.

**RESULTS:** We retrospectively evaluated 346 PD performed during the study period. Mean age was 64.5 years (27-85). PD was performed for pancreatic ductal adenocarcinoma in 238 cases (68.8%), for ampullary cancer in 75 cases (21.7%), for distal cholangiocarcinoma in 30 cases (8.7%) and for duodenal cancer in 3 cases (0.9%). The mean number of harvested and metastatic lymph nodes was 23 (4-63) and 2.9 (0-54), respectively. The resection was classified N0, N1 and N2 in 135 (39.0%), 167 (48.3%) and 45 (12.7%) cases, respectively. The rate of R1 resection was 30.6%.

Median OS and DFS of the entire cohort were 70 (58-96) and 60 (41-76) months, respectively. OS and DFS were significantly different in N2 resections (39 (14-41) and 24 (13-26) months, respectively) if compared with N1 resections (55 (42-56) and 40 (27-55) months, respectively) (p<0.05) and with N0 resections (98 (68-110) and 94 (61-109) months, respectively) (p<0.01) (figure 1).

Moreover, in the node positive patients, those who had > 4 nodes positives were found to have a significantly worse OS and DFS (HR = 1.44 and 1.78, respectively) (p=<0.01). LNF ratio was not found to have a statistical relationship with the OS and DFS.

**CONCLUSION:** The results of the present analysis demonstrate that the prognosis of patients with LN involvement after PD for cancer is significantly correlated to...
the site of nodal metastases. For this reason, the JPS staging system better stratify
the patients with nodal metastases if compared with the UICC system. Moreover,
according to our results, the number of metastatic LN significantly affected patients’
prognosis and should be considered in an ideal TNM staging.

S026 QUALITY OF LIFE TRENDS IN PATIENTS UNDERGOING SURGERY FOR
CHRONIC PANCREATITIS

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BACKGROUND: Chronic pancreatitis is a debilitating disease for which surgery is
the mainstay therapy. Literature suggests that surgery may not prevent disease
progression and the long-term outcomes may deteriorate. We evaluated these post-
operative trends by comparing the quality of life amongst our cohort of operated
chronic pancreatitis patients.

METHODS: The study is a retrospective analysis of patients managed in Division of
Surgical Gastroenterology in PGIMER, a tertiary hospital in Northern India. Those with
a minimum follow up period of 1 year were administered the newly developed disease-
specific EORTC QLQ-PAN28(CP) questionnaire. Izbicki pain scores, steatorrhoea and
diabetes outcomes were measured simultaneously. The cohort was divided into
alcoholic and non-alcoholic pancreatitis groups to account for the innate differences in
the disease process. Short-term and long-term follow-up subgroups were compared
to determine whether the improvement in outcome and quality of life after resection/
drainage surgery was sustained over time.

RESULTS: 70 cases of chronic pancreatitis were admitted for surgery of whom 34
had alcoholic and 36 non-alcoholic pancreatitis. The mean age was 37.1 +/- 12.3y(range
15-67y) and the mean symptom duration was 2.5 +/- 1.4y(range 1-10y). Pain was the
predominant complaint in the 67 who underwent surgery of which Frey procedure
constituted the majority.

Of the 41(58.6%) who could be followed-up, 19(46.3%) belonged to alcoholic and
22(53.7%) to non-alcoholic groups. The incidence of pain, exocrine/endocrine
insufficiencies and nature of the surgical procedure performed was similar in both
groups. Complete pain relief by Izbicki scores was more common in non-alcoholic
group (p=0.02). Reliefs in exocrine/endocrine insufficiency were similar in both groups.
Each of the groups were divided into short-term (<3y) and long-term follow-up (≥3y)
subgroups.
The global health status was significantly better post-operatively in all subgroups. Similar significant improvements were noted among the functional parameters role functioning and social functioning. Improvement in physical functioning was significant only in the short-term subgroups. Cognitive and emotional functioning improvements were significantly better only in non-alcoholic subgroups.

Among the symptom scores pain scores were significantly better in all the subgroups. Indigestion too improved postoperatively in all (though insignificant in long-term alcoholic and short-term non-alcoholic subgroups). Fatigue, body image and sexuality had significantly improved only in short-term subgroups. Betterments in nausea-vomiting, eating related items, weight loss and loss of muscle strength were not significant in alcoholic long-term subgroup (some of them had resumed alcohol consumption). Post-operative improvements in financial difficulties, burden of treatment and fear of future health parameters were not significantly better in both alcoholic subgroups and in the short-term subgroup of non-alcoholic. Significant improvement in appetite loss was seen in short-term alcoholic and long-term non-alcoholic subgroups only. The other symptom scores hadn’t significantly improved post-operatively.

Postoperative Izbicki pain score improvements were significant in all the subgroups. CONCLUSION: Improvements in postoperative outcomes and QOL using the EORTC QLQ PAN 28(CP) were similar among short-term (<3 y) and long-term (>3y) subgroups which may imply that the benefit of surgery is preserved over time. Physical scores though, didn’t show such a trend of sustained improvement.

**S027 TIMING OF CHOLECYSTECTOMY AFTER MILD BILIARY PANCREATITIS: A RANDOMISED CONTROLLED MULTICENTER TRIAL**

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INTRODUCTION: In mild biliary pancreatitis, international guidelines advise cholecystectomy during index-admission or within four weeks after discharge to prevent recurrent biliary pancreatitis or other biliary events. However, high quality evidence for the optimal timing of cholecystectomy is limited and in daily practice the waiting period for cholecystectomy often exceeds 6 weeks. Therefore, we conducted a randomised trial to investigate whether cholecystectomy during primary admission can reduce the number of readmissions for biliary events compared to postponed cholecystectomy.

METHODS: All adult patients admitted with a first episode of mild biliary pancreatitis were assessed for eligibility. Patients were randomised within 24 to 48 hours before anticipated discharge for either laparoscopic cholecystectomy within 72 hours (‘early’) or after 25 to 30 days (‘interval’). Primary endpoint was a composite of mortality or readmission for biliary events (i.e. recurrent pancreatitis, biliary colics, cholecystitis or choledocholithiasis requiring endoscopic retrograde cholangiopancreatography [ERCP]). Secondary endpoints included patient reported biliary colics, safety of cholecystectomy expressed by technical difficulty as measured on a 10-point scale by the surgeon, need for conversion, perioperative complications and length of hospital stay. The trial protocol has been published1.

RESULTS: In 23 Dutch hospitals 266 patients with mild biliary pancreatitis were enrolled. 129 Patients were randomised for early cholecystectomy and 137 for interval cholecystectomy. One patient was excluded prior to analyses because of an incorrect diagnosis of pancreatitis. Baseline characteristics were similar between groups. Median time from randomisation to cholecystectomy was 1 day (interquartile range [IQR] 1 to 2) in the early versus 27 days (IQR 26 to 29) in the interval group. The primary endpoint occurred less often in the early group (5% vs. 17%; risk ratio 0.28; 95% confidence interval [CI] 0.12-0.66; p = 0.002). Furthermore, the incidence of recurrent biliary pancreatitis was lower in the early group (2% vs. 9%, RR 0.27; 95% CI 0.08-0.92; p = 0.03) and patients were re-admitted less often for biliary colics (1% vs. 5%; RR 0.3; 95% CI 0.03-1.43; p = 0.11). Of the 103 patients in the interval group who returned their questionnaires, 52% reported colics during the waiting period. Need for ERCP, technical difficulty of cholecystectomy, number of conversions, perioperative complications, and length of hospital stay did not differ between groups.

CONCLUSION: Cholecystectomy should be performed during the initial admission for mild biliary pancreatitis, as this prevents readmissions for recurrent biliary events, including recurrent biliary pancreatitis, without increased risk of complications. (ISRCTN72764151)
S028 TOTAL PANCREATECTOMY AND ISLET CELL AUTOTRANSPLANTATION AS SALVAGE THERAPY FOR PATIENTS FAILING PREVIOUS SURGICAL INTERVENTIONS FOR CHRONIC PANCREATITIS

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PURPOSE: Traditional decompressive and/or pancreatic resection procedures have been the cornerstone of surgical therapy for refractory chronic pancreatitis. Management of patients that fail these traditional interventions represents a clinical dilemma. Salvage therapy with completion pancreatectomy and islet cell autotransplantation (CPIAT) is an emerging treatment option for this patient population, however outcomes after this procedure have not been well studied.

METHODS: All patients undergoing CPIAT after previous decompressive and/or pancreatic resection for the treatment of chronic pancreatitis at our institution were identified for inclusion in this single-center observational study. Study end points included narcotic requirements, glycemic control, and quality of life. Quality of life (QOL) was assessed using the SF-36 health questionnaire.

RESULTS: At our institution 163 patients have undergone TPIAT from January 2000 through September 2013, of these 64 were performed in patients as salvage therapy. The median age at time of CPIAT was 38 years (IQR = 29.5-48). All of these patients had previously undergone prior limited pancreatic resection or decompressive procedure. The majority (50%, n=32) of patients underwent prior pancreaticoduodenectomy, while the remainder had undergone distal pancreatectomy (17.2%, n=11), Frey (12.5%, n=8), Puestow (12.5%, n=8) or Berne (7.8%, n=5) procedures. Median time from initial surgical intervention to CPIAT was 21.7 months (IQR=13.6-43.0). All of these patients underwent a successful CPIAT. Mean operative time was 502.2 minutes with average hospital length of stay of 13 days. Islet cell isolation was feasible despite previous procedures with a mean islet yield of 331,304 islet cell equivalents. Median patient follow-up was 21.2 months (IQR=7.9-36.8). Prior to CPIAT, all patients had a mean of 120.8 morphine equivalent mg per day (MEQ) which improved to 48.5 MEQ (p<0.001 compared to preoperative requirements) at most recent follow-up. 44% (n=28) of these patients achieved narcotic independence. All patients were able to achieve stable glycemic control with a mean insulin requirement of 16 units per day. 20% of these patients (n=13) were insulin independent after CPIAT. Mean postoperative glycosylated hemoglobin was 7.8% (range=4.6–12.5). Islet cell viability was confirmed with endocrine testing and mean c-peptide levels six months after CPIAT were 0.91ng/mL (range=0.1–3.0). The SF-36 QOL survey administered post-operatively demonstrated improvement in all tested modules.

CONCLUSION: This study represents the first study to examine the results of salvage therapy with CPIAT for patients with refractory chronic pancreatitis. Patients undergoing CPIAT achieved improved postoperative narcotic requirements, stable glycemic control, and improved quality of life.
**S029 EARLY NASOENTERIC VERSUS ON DEMAND FEEDING IN PREDICTED SEVERE ACUTE Pancreatitis: A Multicenter Randomized Controlled Trial**

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BACKGROUND: Early nasoenteric tube feeding is recommended in severe acute pancreatitis to prevent gut-derived infections but supporting evidence is lacking.

METHODS: We conducted a randomized controlled multicenter trial comparing early nasoenteric tube feeding with on demand feeding in adult patients with predicted severe pancreatitis. Early nasoenteric feeding using a nasojejunal tube was started within 24 hours. On demand feeding consisted of an oral diet started 72 hours after admission with nasojejunal tube feeding if required. The primary end point was a composite of major infections (infected pancreatic necrosis, bacteremia, or pneumonia) or death with 6 months follow-up.

RESULTS: Total of 208 patients were enrolled in 19 Dutch hospitals. The primary end point occurred in 30 of 101 patients (30%) in the early nasoenteric tube feeding group and in 28 of 104 patients (27%) in the on demand group (P=0.76). There were no differences in major infections (25% versus 26%, P=0.87) or mortality (11% versus 7%, P=0.33). In the group, 72 patients (69%) tolerated an oral diet without additional tube feeding.

CONCLUSIONS: Early nasoenteric tube feeding does not reduce infections or death in patients with pancreatitis when compared with the on demand strategy. Most patients tolerate an oral diet and do not require nasojejunal tube placement.

(Funded by the Netherlands Organisation for Health Research and Development; Current Controlled Trials number, ISRCTN18170985.)

**S030 MISCHARACTERIZATION OF PancreATIC NECROSECTOMY IN ACS-NSQIP**

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BACKGROUND: Institutional studies from experienced centers typically report mortality as high as 15-30% in patients with pancreatic necrosis undergoing necrosectomy. However, a recent analysis using the American College of Surgeons National Surgical Quality Improvement Program database (ACS-NSQIP) suggested a mortality of just 6.8% for surgical necrosectomy, which was concluded to be “better than expected.” The objective of this study is to critically reassess the ACS-NSQIP data to explain this apparent discrepancy between single institution reports and the ACS-NSQIP report.

METHODS: Using the NSQIP database and index procedure CPT code 48105 (available since 2007), we identified hospitalized patients who underwent pancreatic debridement from 2007 to 2013. Patients were carefully sorted by presence of SIRS or sepsis, the length of hospital stay before and after surgery, and any associated procedures to determine those that represented the true “typical” clinical scenario of necrotizing pancreatitis requiring debridement from those that might have been inappropriately coded. Patients who underwent operations for uncomplicated...
pseudocysts, or the procedure determining their clinical course was anything other than pancreatic necrosectomy (e.g., basic laparoscopic cholecystectomy, marsupialization liver abscess) were excluded. Patients with no evidence of SIRS/sepsis who underwent elective necrosectomy (i.e., admitted from home) were assumed to be suffering from “persistent unwellness” as the indication for necrosectomy.

RESULTS: A total of 1289 patients underwent pancreatic debridement. On careful review, 535 patients (41.5%) were considered “misclassified” or did not fit the “typical” course of necrotizing pancreatitis requiring necrosectomy. This group included those that underwent elective necrosectomy (presumably for persistent unwellness, n=257), those that had short total hospitalization (<10 days) and never met clinical criteria for SIRS/sepsis (n=196), those that had procedures for uncomplicated pseudocysts (n=72), and those for whom the driving procedure was other than necrosectomy (n=10). For this group of “misclassified” patients, the morbidity and mortality rates were 36.1% and 2.1%, respectively. Prolonged mechanical ventilation, renal complications, postoperative hemorrhage requiring blood transfusion, and reoperation were present in 10.7%, 1.4%, 14.6%, and 7.9%. Median hospital stay was 8 days. For the subset that was admitted from home for elective necrosectomy, the morbidity was 54% and mortality was 3.5%.

This left a total of 754 patients (58.5%) that were truly representative of “typical” patients requiring necrosectomy for severe necrotizing pancreatitis. In this group, morbidity and mortality rates were 78.6% and 14.7%, respectively. Prolonged mechanical ventilation, renal complications, postoperative hemorrhage requiring blood transfusion, and reoperations were noted in 52%, 5.7%, 35.4%, and 34.2%, respectively. Median hospital length of stay was 34 days.

CONCLUSIONS: ACS-NSQIP in its current form does not adequately characterize the results after necrosectomy for severe necrotizing pancreatitis. After exclusion of patients that did not match the typical clinical scenario requiring necrosectomy, the actual mortality rate is significantly higher than that previously reported from NSQIP and more closely matches prior institutional series. To provide meaningful outcome measures for these patients, more details and variables pertinent to pancreatic necrosectomy need to be included in future revisions of the HPB-NSQIP.

S031 COMPARISON BETWEEN KI-67 LABELLING INDEX ON EUS-GUIDED FINE-NEEDLE ASPIRATION AND RELATIVE SURGICAL SPECIMEN AFTER CURATIVE SURGERY: A SINGLE CENTER EXPERIENCE OF 49 CONSECUTIVE CASES Filippo Scopelliti, MD1, Sabrina Gloria Giulia Testoni, MD2, Paolo Regi, MD1, Emanuele Dabizzi, MD2, Marco Federico Manzoni, MD3, Gianpaolo Balzano, MD4, Claudio Doglioni, Prof, MD5, Pier Alberto Testoni, Prof, MD2, Paolo Giorgio Arcidiacono, MD2, Maria Chiara Petrone, MD2; 1Hepato-Pancreato-Biliary Unit, Casa di Cura Pederzoli, 2Gastroenterology and Gastrointestinal Endoscopy Unit, IRCCS San Raffaele Scientific Institute, 3Unit of Endocrine Tumors, IRCCS San Raffaele Scientific Institute, 4Pancreas Unit, IRCCS San Raffaele Scientific Institute, 5Pathology Unit, IRCCS San Raffaele Scientific Institute, Milan, IT

BACKGROUND & AIMS: The Ki-67 labelling index in histological specimens was demonstrated to be the most important prognostic indicator and the major risk
factor for progression and recurrence in pancreatic neuroendocrine tumours (pNETs). It is also well known that Ki-67 index can be evaluated before surgery at EUS-FNA cytology obtaining a reliable agreement with the relative histological specimen. Several reports demonstrated that 5% cut-off of Ki-67 index permits a better prognostic stratification of pNETs compared to the 2% cut-off suggested by WHO 2010 classification. The primary aim of this study was to confirm that Ki-67 index on cytological samples resulted significantly concordant with the corresponding surgical specimens. The secondary aim was to evaluate if agreement between cytological and histological grading may improve whether the cut-off value vary from 2% to 5%.

MATERIALS & METHODS: Forty-nine consecutive patients diagnosed of pNETs were retrospectively evaluated. In all cases Ki-67 index was obtained at cytology and at relative histology. Concordance rate between cytological and histological grading was determined for both 2% and 5% cut-offs and compared.

RESULTS: Applying 2% cut-off, concordance rate was 71.4% (35/49; k statistic 0.46; P=0.0001), whereas with the 5% cut-off concordance rate was 81.6% (40/49; k statistic 0.47; P=0.0001). Agreement improved from 71.4% to 81.6% going from 2% to 5% cut-off but was not significant (P=0.340). No G1/G2 lesions upgraded to G3 at histology for both cut-offs and G3 lesions were concordant in all cases. A univariate analysis for concordance was conducted for both the cut-offs; no significance was found for 2% cut-off, whereas for 5% cut-off, cytological grading resulted correlated to the concordance rate (P=0.006). For 5% cut-off, 89% (34/38) of G1 lesions resulted concordant whereas for G2 lesions a 44% (4/9) of agreement was found. For 2% cut-off, G1 and G2 lesions concordance rate was 76% (19/25) and 63.6% (14/22) respectively.

CONCLUSIONS: The results of the present study, which includes the largest single-center series in literature at our knowledge, demonstrate that Ki-67 index obtained by EUS-FNA cytology is reliable and accurate compared to the histological grading. Applying the 5% cut-off, the agreement improves even if with no statistical significance. Furthermore, 5% cut-off was found to be more accurate in predicting histological grading for G1 lesions comparing to G2 neoplasms, differently to the traditional 2% cut-off in which this difference was not found. Further studies with larger populations are needed to establish which Ki-67 cut-off value assure the highest cytology-histology concordance rate.

S032 CDK4/6 INHIBITORS ARE POTENT SUPPRESSORS OF PANCREATIC CARCINOMA GROWTH
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INTRODUCTION: Pancreatic ductal adenocarcinoma (PDA) carries a dismal prognosis, even in patients who undergo successful surgical interventions. Loss of the CDKN2A tumor suppressor is an exceedingly frequent occurrence in PDA. The CDKN2A gene encodes the p16ink4a protein, which is a potent inhibitor of cyclin-dependent kinases 4 and 6 (CDK4/6). Prior studies have shown that p16ink4a is dominant to KRAS and can serve to constrain oncogenic proliferation in many contexts. Specific CDK4/6 pharmacological inhibitors have been developed and could represent a means to restore the physiological loss of CDKN2A and treat PDA. Here we utilized multiple models to investigate the impact of CDK4/6 inhibition on PDA.
METHODS: Three specific model systems were utilized to determine the therapeutic efficacy of CDK4/6 inhibition in the treatment of PDA. First, a panel of established PDA cell lines was employed to delineate overall features of the response to CDK4/6 inhibition, mechanisms of resistance, and define novel combination treatments. Second, in order to recapitulate the complex microenvironment of PDA, we utilized a primary tumor explant model where slices from 13 clinically resected PDA specimens were cultured on semi-solid support. These explants maintained the histologic architecture, biomarker profile, and proliferative index of the primary surgical specimen. Third, a panel of patient-derived xenografts representative of resected disease were developed and utilized to examine the response to CDK4/6 inhibition in vivo.

RESULTS: The established cell lines had variable response to PD-0332991 (CDK4/6 inhibitor) as a single agent; however, in combination with mTOR or MEK inhibitors provided substantial efficacy across all models studied. Surprisingly, in the primary tumor explants, treatment with PD-0332991 led to profound suppression of proliferation in all models, with the exception of a single resistant case harboring a loss of the RB tumor suppressor. Similarly, patient-derived xenografts exhibited profound inhibition of Ki-67 proliferation marker and growth suppression. These data indicate that CDK4/6 inhibition is effective in suppressing the growth of PDA under diverse physiological contexts.

DISCUSSION: Our data demonstrates that PDA growth is profoundly inhibited by selective targeting of the CDK4/6 in primary tumor explants and patient-derived xenografts. The variable response to PD-0332991 in established cell lines likely reflects a more aggressive phenotype and the altered biology of models propagated in long term culture. Importantly, the data suggest that CDK4/6 inhibition could be particularly effective in the control of resectable PDA.

S033 A NOVEL PARP INHIBITOR RESISTANCE MECHANISM MEDIATED BY THE RNA-BINDING PROTEIN HUR

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INTRODUCTION: Pancreatic ductal adenocarcinoma (PDA) is the 4th leading cause of cancer-related deaths in the United States, and the 3rd most common cancer associated with BRCA mutations. Frontline therapies have significant toxicities and only minimally extend overall survival, highlighting the need to optimize targeted therapies. Poly-ADP ribose polymerase (PARP) inhibitors (PARPi), a ‘poster child’ for personalized medicine, depend on the concept of synthetic lethality where the combined perturbation of DNA repair genes, via genetic mutations within the tumor cells, and pharmacological PARP inhibition effectively targets BRCA-deficient tumors. Although PARPi have delivered promising preclinical and clinical results, initially- responsive patients ultimately develop resistance.

A unique mechanism elucidated by our lab demonstrates that the mRNA-binding protein HuR mediates resistance to DNA damaging agents through post-transcriptional regulation of select mRNA cargo. Predominantly expressed in the nucleus, HuR translocates to the cytoplasm upon tumor-associated stress. Cytoplasmic HuR binds and stabilizes unique pro-survival transcripts, resulting in
resistance to a harsh tumor microenvironment. Here, we sought to evaluate the role of HuR in regulating PARPi response.

METHODS AND RESULTS: Through immunofluorescence and western blot of fractionated lysates, we demonstrate that the PARP inhibitors Veliparib, Olaparib, and Rucaparib induced cytoplasmic HuR localization. Conversely, pre-treatment with MS-444 (Novartis), an established small molecule inhibitor of HuR, abrogated its nuclear export induced by PARPi treatment. Consistent with these findings, the growth-inhibitory effects of PARPi treatment were significantly potentiated upon HuR silencing whereas ectopic HuR overexpression promoted resistance, as observed in short term cell survival and long-term anchorage-independent growth assays. Additionally, silencing of HuR enhanced PARPi-induced cytotoxicity, assessed by increased accumulation of DNA damage (γH2Ax) foci and Poly ADP-ribose (PAR) polymers. Ribonucleotide protein immunoprecipitation (RNP-IP) assays demonstrated that HuR binds and upregulates Poly-ADP Ribose Glycohydrolase (PARG) mRNA, the major enzyme responsible for catabolism of PAR. Taken together, when PDA cells are exposed to PARPi, HuR mediates upregulation of PARG, thereby decreasing PARylation and facilitating DNA repair. Conversely, HuR inhibition results in detrimental accumulation of PAR and enhanced DNA damage, which ultimately leads to increased PARPi-conferred cytotoxicity.

DISCUSSION: These results demonstrate that HuR imposes a significant barrier to PARPi therapy by orchestrating a strong chemoresistance mechanism. Thus, we provide evidence that HuR (and/or its target) inhibition via an HuR inhibitor (MS-444) can optimize PARPi-based therapies for better patient outcomes.

S034 PHARMACOLOGICAL INHIBITION OF BET BROMODOMAINS SUPPRESSES TUMOR GROWTH AND PROLONGS SURVIVAL IN A PRECLINICAL MODEL OF PANCREATIC CANCER. A Nakagawa1, M Mino-Kenudson2, K D Lillemoe1, C Fernández-del Castillo1, A L Warshaw1, A S Liss1; 1 Departments of Surgery, Andrew L. Warshaw, MD Institute for Pancreatic Cancer Research, Massachusetts General Hospital and Harvard Medical School, Boston, MA, Boston, US

BACKGROUND: Targeting of epigenetic regulators is a promising new therapeutic strategy for cancer. However, the epigenetic pathways contributing to pancreatic ductal adenocarcinoma (PDAC) remain elusive. Members of the BET family of chromatin adaptors contain tandem bromodomains that allow for binding to acetylated lysines on histones to regulate gene expression. A variety of small molecule inhibitors of BET bromodomains are in clinical trials for the treatment of cancers. In this study we evaluated whether BET proteins play a role in the progression and maintenance of PDAC tumorigenesis.

METHODS: A tissue microarray containing normal pancreas and primary and metastatic PDAC samples from 148 unique patients was analyzed by immunohistochemistry using antibodies for BET family members BRD2, BRD3, and BRD4. Six week-old mice with activated KRAS and deletion of p53 in the pancreas (Pdx1-Cre;KrasG12D/-;p53-/-) were given BET bromodomain inhibitor CPI-203 (BETi) (10 mg/kg) or vehicle control twice daily by intraperitoneal injection using a 5 days on; 2 days off dosing schedule. Additional control and BETi treated mice were administered gemcitabine (40 mg/kg) twice weekly.
RESULTS: Immunohistochemical analysis revealed differences in expression of BET family members in normal pancreas, pre-malignant, and malignant tissue. BRD3 was rarely expressed in the nuclei of normal acinar cells but was widely observed in the nuclei of cells undergoing acinar-to-ductal metaplasia and cells throughout PanIN progression to metastatic disease. An increase in nuclear BRD2 levels was also observed in the progression to cancer, although these changes were less dramatic than seen for BRD3. In contrast to BRD2 and BRD3, no BRD4 was readily detected in acinar and duct cells in normal samples, as well as cells throughout the histological progression to cancer. To determine whether the increased expression of BET proteins is important for tumorigenesis, we evaluated pharmacological inhibition of BET proteins in a genetically engineered mouse model of PDAC. Treatment of mice with BETi significantly prolonged survival relative to control mice (70.5 days vs. 61.5 days, p<0.01). Notably, tumor volumes of BETi treated mice were dramatically reduced relative to control mice (492 mm³ vs. 2855 mm³, p<0.01). This reduction in tumor volume was more than twice that observed for mice treated with gemcitabine. Combination therapy of BETi and gemcitabine resulted in tumors nearly half the size of those from mice treated with BETi alone.

CONCLUSION: Pharmacological inhibition of BET proteins, both alone or in combination with gemcitabine, reduces tumor volume and improves survival in a mouse model of PDAC. The increased expression of BRD2 and BRD3 in premalignant lesions suggests BET proteins may be therapeutically targeted at the earliest stages of PDAC progression.

S035 VERY LONG-TERM SURVIVAL FOLLOWING RESECTION FOR PANCREATIC CANCER IS NOT EXPLAINED BY COMMON GENETIC ALTERATIONS: RESULTS OF WHOLE-EXOME SEQUENCING ANALYSIS

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BACKGROUND: The median survival following surgical resection of pancreatic ductal adenocarcinoma is currently <20 months. Some patients, however, do achieve long-term survival, and within this group, some realize very long-term survival (VLTS, survival ≥10 years).

METHODS: In order to investigate whether specific genetic alterations present in the resected carcinomas determine long-term survival, we sequenced the exomes of 8 surgically resected pancreatic adenocarcinomas from patients who survived at least 10 years after surgery. Six of 8 carcinomas harbored KRAS mutations (75%) and 6 of 8 had TP53 mutations (75%). Only one sample harbored a mutation in the SMAD4 gene (12.5%). Two mutations were identified in the CDKN2A gene (25%) and 3 cancers had mutations in the RNF43 gene (37.5%). Two mutations were identified in the CDKN2A gene (25%) and 3 cancers had mutations in the RNF43 gene (37.5%).

RESULTS: Based on the result of the exomic analysis, the BRAF, CDKN2A, GNAS, KRAS, PIK3CA, RNF43, SMAD4, TP53 and VHL genes were sequenced in a panel of 27 additional surgically resected pancreatic ductal adenocarcinomas obtained from VLTSs. KRAS was the most commonly mutated gene, as alterations were found in 27 of 27 (100%) of the validation cancers. Four of the 27 validation cancers harbored CDKN2A mutations (11.1%), eight harbored SMAD4 mutations (28.5%), and 18 had TP53 mutations.
(68%). GNAS, RNF43 and BRAF were each found mutated in 1 sample (4%). No mutations were found in the PIK3CA and VHL genes. When the results from the whole-exome and targeted sequencing were combined, KRAS proved to be the most commonly altered gene, with activating mutations identified in 33 (94.3%) of the 35 carcinomas. TP53 mutations were found in 24 (68.6%) of 35 cases, SMAD4 mutations in 9 cases (25.7%), and CDKN2A mutations in 6 cases (17.4%). RNF43 mutations were identified in 4 (11.4%) of the carcinomas. Of interest, mutations of RNF43 have been associated with intraductal papillary mucinous neoplasm (IPMNs), which are the most common cystic precursor lesions to pancreatic adenocarcinoma. No previous studies have documented RNF43 mutations in garden variety pancreatic cancer. Although no IPMNs were found at extensive pathological reevaluation, we cannot exclude the possibility that some of the pancreatic cancers occurring in VLTSs were actually derived from IPMNs.

CONCLUSIONS: Clinical and pathological characteristics of the cohort of 35 VLTSs were compared with a control group of 226 surgically resected patients matched by years of surgery. The VLTS group was significantly younger at the time of surgery (mean age 59.1 vs. 65.7, p=0.001). The mean tumor size was significantly smaller in the group of VLTSs than in the control group (2.8 cm vs. 3.1 cm). Compared with the control group, VLTSs were more likely to have stage IA-IB disease (p=0.001), well or moderately differentiated tumor grade (p=0.002), and negative resection margins (p=0.011). The VLTSs also had a higher rate of negative nodal status than the controls (p=0.036). However, more advanced stage, poor grade or nodal disease did not preclude long-term survival. Our results suggest that in most patients, common somatic mutational alterations are unlikely to be the primary determinant of very long-term survival following the surgical resection of pancreatic cancer.

S036 A NOVEL IMMUNOCOMPETENT MURINE MODEL OF PANCREATIC CANCER WITH ROBUST STROMA: A VALUABLE TOOL FOR PRE-CLINICAL EVALUATION OF NEW THERAPIES

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BACKGROUND: The development of novel therapeutics for pancreatic cancer has been hindered by a lack of relevant preclinical models. A valid tumor model has to recapitulate the tumorigenic properties as well as immune and stromal microenvironment which is absent in immunodefective mice models (SCID, Athymic nude). While these components are present in the KPC (Pdx-Cre KrasG12D/+ p53−/−) model, this genetic model has an immense variability in time to invasive disease (47-355 days of life) which makes it unsuitable for the evaluation of novel therapies. In this study we have developed a novel orthotopic tumor model with tumors from KPC mice implanted in C57Black6 mice to address the shortcomings of previous models. Using this novel model we have evaluated the efficacy of Minnelide, a water soluble analog of triptolide, which was developed in our laboratory and is currently in Phase I clinical trials.

METHODS: Pancreatic tumors were extracted from 6 month KPC and cut into ~3mm3 pieces. Laparotomy was performed on C57BL/6 mice and a tumor piece was sewn into a pocket of pancreas using a figure-of-8 stitch of 7-0 prolene. After 4-8 weeks, animals were euthanized and tumors collected. Stromal components and immune cell infiltration were studied by IHC and flow cytometry. In a separate model, the effect of Minnelide (0.42mg/kg/day) on tumor growth and microenvironment was evaluated.
RESULTS: Tumor take rate was 90%. Consistent tumor growth was observed with time [Tumor volume (mm3, Mean ± SD); 4 wk: 1101±347, 8 wk: 1958±590]. At 8 weeks, 30% of mice had died due to tumor burden suggesting that this model can be used to evaluate the impact of novel therapies on disease specific survival. Staining for stromal components (collagen and αSMA) and immune markers (CD45) showed intense desmoplasia as well as infiltration of tumor and surrounding pancreas with leukocytes respectively (Figure1). Flow cytometric analysis of tumor cellular composition showed infiltration with macrophages, myeloid derived suppressor cells and regulatory T cells. As shown in Figure 2, Minnelide treatment resulted in a significant decrease in the tumor volumes and weight [Tumor volume (mm3, mean ± SD). 4 wk: Minnelide 62± 19 vs Control 1101±347 mm3, 8 wk: Minnelide 368± 180 vs Control 1985 ± 590 mm3, p<0.05]. Furthermore, Minnelide treatment significantly decreased the stromal collagen content (Figure 2) and CD4 infiltrate [24± 3% vs 36±4%, Minnelide vs Control, p<0.05].

CONCLUSIONS: Our orthotopic model demonstrates consistent growth rate, tumor associated mortality and recapitulates tumor microenvironment of human pancreatic ductal adenocarcinoma in terms of stroma components and immune infiltration. It also circumvents the variability seen in previous mouse models. This clinically relevant model can be a valuable tool to evaluate novel therapies in pancreatic cancer.
**ORAL ABSTRACTS**

**S037 TARGETING TUMOR-ASSOCIATED HYPOXIA TO OVERCOME CHEMORESISTANCE IN PANCREATIC DUCTAL ADENOCARCINOMA (PDA)**
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**BACKGROUND:** PDA will become the 2nd leading cause of cancer-related mortality in the US by 2020. A recent Phase III randomized controlled trial revealed a 4 month overall survival benefit in metastatic PDA with FOLFIRINOX (Folinic acid, 5-Fluorouracil (5FU), Irinotecan, and Oxaliplatin) compared to gemcitabine, the standard of care. However, the long-term clinical efficacy of FOLFIRINOX and other chemotherapy regimens are limited by tumor-associated drug resistance driven by factors in the tumor microenvironment (e.g., hypoxia). We identified a novel drug resistance mechanism driven by the hypoxia-inducible pro-oncogenic kinase PIM1 and regulated by the RNA binding protein HuR. Herein, we launched into developing a strategy to target this tractable mechanism in an effort to optimize current therapeutic treatments for PDA.

**METHODS:** To model hypoxia, PDA cells were incubated in 1% O2 and responses to 5FU or oxaliplatin assessed to obtain IC50 doses. Stabilizing interactions between the RNA-binding protein HuR and PIM1 mRNA were quantified in vitro through binding assays, and confirmed in patients by immunohistochemistry in resected PDAs (n=44). The contribution of HuR-mediated regulation of PIM1 to resistance to 5FU or oxaliplatin in hypoxia was examined using MS-444 (Novartis), a low-molecular-weight HuR inhibitor.

**RESULTS:** In response to hypoxia, HuR translocates from the nucleus to the cytoplasm where it binds and stabilizes the PIM1 mRNA transcript, thus amplifying PIM1 translation and protein expression. Clinically, we identified a positive correlation (p = 0.011) between cytoplasmic HuR and PIM1 protein expression in a cohort of PDA patients from our institution. In vitro mechanistic studies demonstrated that hypoxia-mediated induction of PIM1 overexpression enhanced DNA repair and evaded the apoptotic response elicited by hypoxic stress. Targeted inhibition of HuR by the HuR inhibitor MS-444 abrogated hypoxia-induced PIM1 overexpression, enhancing PDA cell sensitivity to oxaliplatin and 5FU (P<0.001).

**CONCLUSION:** The mRNA-stability factor HuR post-transcriptionally induces PIM1 expression under hypoxic conditions, and thereby promotes hypoxia-induced chemoresistance. Ongoing pre-clinical studies will evaluate pharmacologic inhibition of HuR’s regulation of PIM1 (e.g., MS-444) as a novel modality to enhance the therapeutic value of FOLFIRINOX for the treatment of metastatic PDA.

**S038 ANTI-TGF-BETA ANTIBODY INHIBITS TREG PATHWAY AND INDUCES ANTI TUMOR EFFECTOR T CELL RESPONSES IN A VACCINE-DEPENDENT MANNER**
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**INTRODUCTION:** Our phase I/II human clinical trials utilizing a GM-CSF secreting allogeneic pancreas tumor vaccine (GVAX) have been shown to be safe and effective in inducing anti-tumor immune response in pancreatic adenocarcinoma (PDA) patients.
Immune analysis of our neo-adjuvant clinical trial revealed the development of lymphoid aggregates (LA) within the PDA tumor microenvironment 2 weeks after treatments that are consistent with germinal center structures. Microarray studies revealed that multiple components of the Treg pathway were suppressed while the Th17 pathway was enhanced in LAs from patients who survived greater than 3 years and demonstrated vaccine-enhanced mesothelin-specific T cell responses. Based on these findings, we hypothesized that the use of immune modulators with the GVAX platform will improve vaccine therapy and pancreatic cancer survival.

METHODS: Mice were orthotopically transplanted with $2 \times 10^6$ Panc02 pancreatic tumor cells to form liver metastases by a hemisplenectomy technique on day 0. Following tumor transplantation, wild-type mice were treated subcutaneously with a mouse GM-CSF secreting pancreatic tumor vaccine (mouse GVAX) in combination with TGF-β antibodies or the appropriate control. GVAX was given starting on day 4 following tumor inoculations. Immune modulatory TGF-β antibodies or IgG control were administered three times weekly starting post-operative day 3.

RESULTS: Combination therapy with GVAX vaccine and TGF-β antibody blockade improved murine survival compared to GVAX therapy alone. Moreover, 40% of mice in the combinatory treatment group were cured versus 20% of mice receiving GVAX monotherapy and 0% in no treatment controls and TGF-β blockade monotherapy. TGF-β blockade in combination with GVAX significantly increased the infiltration of CD8+ tumor infiltrating lymphocytes, effector CD8+ T lymphocytes and tumor-specific interferon-γ production of CD8+ T cells in the TME versus monotherapy controls (all p<0.05). Regulatory T cells were inhibited by the addition of vaccine to TGF-β blockade.

CONCLUSIONS: Vaccine induced lymphoid aggregates in PDA have demonstrated genetic signatures which could explain tumor tolerance mechanisms undermining vaccine efficacy. Our PDA preclinical model demonstrates a survival advantage in mice treated with immune modulators combined with GVAX therapy. This study provides strong rational for combining anti-TGF-β antibody with GVAX therapy for pancreatic cancer treatment in early phase neoadjuvant clinical trials.
RESULTS: Using NGS, we profiled 9 pts with localized non-metastatic PC who received neoadjuvant therapy prior to planned surgery. Of the 9 patients, 6 later developed metastases and 3 have never recurred. In addition, cfDNA from 2 additional PC pts with metastatic disease and 10 controls were included. The average yield for total cfDNA in 400 uL of plasma was 5.50 ± 4.5 ng in pts and 2.02 ± 1.86 ng in controls. PC pts had higher cfDNA concentrations than controls (p = 0.03). Among PC pts, the mean SS was higher in metastatic as compared to localized pts (5.06 ± 2.41 vs. 2.31 ± 1.24; p=0.04). Among pts with localized PC, mean SS was higher in pts who would develop metastases as compared to pts who never recurred at: baseline (2.69 ± 1.38 vs. 1.56 ± 0.35; p = 0.22), preop (2.09 ± 0.63 vs. 1.61 ± 0.69, p= 0.33), and postop (2.24 ± 0.37 vs 1.77 ± 0.04, p = 0.27) time points. After neoadjuvant therapy, chromatograms demonstrated subtle dynamic changes in CNV when compared to baseline. During neoadjuvant therapy, 3 pts developed metastatic disease, of which 2 pts demonstrated new CNV from baseline. Concordant changes in CNV were reflected in serum CA 19-9 levels in 5 of the 9 pts.

CONCLUSIONS: CNV analysis of cfDNA can be achieved with limited quantities of plasma. Baseline CNV of cfDNA is higher in pts with advanced disease compared to those with localized PC. Qualitative changes in CNV may correlate with treatment response.

S040 CHARACTERISTICS AND NATURAL HISTORY OF CHYLE LEAK FOLLOWING PANCREATECTOMY

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INTRODUCTION: Chyle leaks are an uncommon complication following pancreatic resection but can be difficult to manage. The aim of this study is to document the characteristics and natural history of chyle leakage in a large cohort of patients undergoing pancreatic resection.

METHODS: From 1993-2013 data for all patients who underwent pancreatectomy at The Johns Hopkins Hospital was retrospectively reviewed. A contained chyle leak (CCL) was defined as milky, amylase poor drainage with a triglyceride level >110 mg/dl. Chylous ascites (CA) was diagnosed in the setting of a clinical chyle leak with free fluid present on imaging. In order to identify the potential risk factors for development of a chyle leak a matched-control analysis was performed in 1:4 fashion. Patients with a chyle leak were matched with patients who did not develop a chyle leak based on histology, tumor size and type of surgical resection. Patients with accompanying pancreatic fistula were excluded from univariate and multivariate analysis.

RESULTS: Among a total of 5968 patients who underwent pancreatectomy, 120(2.0%) developed a chyle leak at a median post-operative day of 7 with a median drain triglyceride level of 486 mg/dl. Ninety-six (80%) patients had an isolated chyle leak while 24(24/120, 20%) with a chyle leak developed a concomitant pancreatic fistula (PF). Among patients with a pure chyle leak, a CCL was observed in 77(77/96, 80%) and CA in 19(19/96, 20%). The median time to closure was longer in patients with CA (36.5 days) compared to those with CCL (15 days, p=0.003) and concomitant PF (16 days, p=0.05). The median duration of TPN was 14 days for patients with CCL.
compared to 50 days for those with CA. Median overall survival of patients with CA (12 months) was worse than those with CCL (22 months, p=0.05) and chyle leak/PF (23 months, p=0.06). On multivariate analysis, lymphovascular invasion (OR: 1.72, 95%CI: 1.02-2.89, p=0.04), neoadjuvant therapy (OR: 4.01, 95%CI: 1.67-9.60, p=0.002), number of resected lymph nodes (OR: 1.03, 95%CI: 1.01-1.05, p=0.02) and vascular resection (OR: 4.35, 95%CI: 1.39-13.61, p=0.01) were independently associated with chyle leak development. With regards to management, among patients with CCL, 12(16%) patients had drains left in place, 58(75%) were given dietary restrictions and 32(42%) required TPN. All patients with CA were started on TPN. Four (6%) patients with CCL and 3(19%) with CA received octreotide along with TPN and/or dietary restrictions. Aggressive therapies were required in 12 (63%) patients with CA and 1(1%) with CCL in whom conservative measures failed. In the 1 patient with CCL, lymphoscintigraphy was performed. In patients with CA, 5(42%) required lymphangiogram, 3(25%) lymphoscintigraphy, 6(50%) paracentesis, 2(17%) reoperation, 2(17%) peritoneovenous shunt and 1(8%) radiation. Of the patients requiring lymphangiogram, 2 successfully identified a chyle leak. These numbers are not mutually exclusive, as some patients required multiple interventions.

CONCLUSION: While patients with CCL can be successfully managed with dietary restrictions and/or TPN, the majority of patients with CA have a prolonged course, which may require aggressive interventions resulting in decreased survival.

S041 MORTALITY FOLLOWING PANCREATODUODENECTOMY: THE INFLUENCE OF FISTULA RISK

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INTRODUCTION: Postoperative pancreatic fistula (POPF) is the most common and morbid complication following pancreatoduodenectomy (PD). The previously validated Fistula Risk Score (FRS) considers the presence of endogenous (gland texture, duct size, pathology) and operative (blood loss) risk factors to predict the occurrence of clinically relevant fistula (CR-POPF; ISGPF Grade B/C). These CR-POPF risk factors may also influence mortality; however, this has not been proven.

METHODS: This multinational study of 4,307 PDs involved 55 pancreatic surgical specialists at 15 high-volume institutions. Patients were stratified for 90-day mortality risk using the FRS (0-10 points) and assigned to one of four risk zones: negligible (0 points), low (1-2), moderate (3-6), high (7-10). A Cox regression identified predictors for mortality while adjusting for FRS risk, as well as surgeon, institutional, and operative factors.

RESULTS: The overall mortality rate was 2.1% (N=89), with institutional rates ranging from 1.0 -8.6%. Individual surgeon rates—for those who contributed ≥ 25 cases—ranged from 0 -11.1%. Clinically relevant fistulas accounted for 36% of the overall mortalities and their presence strongly correlated with higher rates of mortality (6.6 vs. 1.5%; P<0.001). Nearly 70% of deaths occurred in the setting of soft pancreatic parenchyma and intraoperative blood loss > 700 mL was associated with a greater than two-fold increase in mortality risk. The mean Fistula Risk Score was significantly greater in patients who suffered mortality (4.6 vs. 3.7; P<0.001). In fact, patients with
high CR-POPF risk (FRS 7-10) had over a fivefold increase in mortality risk compared to patients at negligible risk (P=0.010; Figure). There was no significant difference in mean FRS between fistulous and non-fistulous mortalities (4.6 vs. 4.6; p=0.899); however, the median POD of mortality was two times greater in cases of mortality due to a CR-POPF (28 [IQR: 40] vs. 14 [IQR: 26] days; P=0.010). While surgeon years of experience and career PD volume did not significantly influence overall mortality, institutional PD volume > 75 cases per year correlated with reduced rates (1.9 vs. 4.9%; P=0.006).

CONCLUSION: Procedure-specific risk influences mortality after pancreatectoduodenectomy. Improvements in pancreatic fistula outcomes will likely lead to improved survival following PD.

**S042 DRAIN MANAGEMENT FOLLOWING PANCREATECTODUODENECTOMY: REAPPRAISAL OF A PROSPECTIVE RANDOMIZED TRIAL USING RISK STRATIFICATION**

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BACKGROUND: Traditionally, the drain literature has focused on the question ‘to drain or not to drain’, with little insight into the benefit of selective drainage. However, a recent randomized trial used the Fistula Risk Score to develop guidelines for selective drainage based on clinically relevant fistula (CR-POPF) risk. Additionally, POD1 drain...
fluid amylase (DFA) and serum amylase (SA) have been identified as postoperative predictors of CR-POPF occurrence. This study sought to identify patients who may benefit from selective drainage, as well as the optimal timing for drain removal, following pancreatoduodenectomy.

METHODS: 106 pancreatoduodenectomies from a previously reported RCT were assessed using a risk-adjusted process. CR-POPF incidence was compared between FRS risk cohorts. POD1 DFA and SA values were evaluated using ROC analysis to determine cut-off values predictive of CR-POPF occurrence. A regression analysis compared drain removal randomizations (POD3 vs. 5) in patients with considerable CR-POPF risk.

RESULTS: Three-quarters of patients had moderate/high CR-POPF risk. This group had a CR-POPF rate of 36.3% versus 7.7% among negligible/low risk patients (P=0.005). The AUCs for CR-POPF prediction using POD1 DFA and SA values were 0.800 (P=0.000001; 95% C.I.=0.70-0.90) and 0.655 (P=0.012; 95% C.I.=0.55-0.77), respectively. Moderate/high risk patients with POD1 DFA ≤5000 U/L had significantly lower rates of CR-POPF when randomized to POD3 drain removal (4.2 vs. 38.5%, P=0.003; Figure 1). Within this subset, patients with POD3 drain removal also had lower rates of pulmonary (16.7 vs. 50.0%, P=0.013) and abdominal (12.5 vs. 38.5%, P=0.037) complications. Additionally, POD3 drain removal was associated with shorter hospital stay (median: 7 vs. 10 days; P=0.006).

CONCLUSION: Applying this data, a clinical care protocol (Figure 2) is proposed whereby drains are recommended for moderate/high FRS risk patients but may be omitted in patients with negligible/low risk. Moderate/high risk patients with POD1 DFA values ≤5000 U/L should have drains removed on POD3.
S043 CLINICAL RISK SCORE TO PREDICT PANCREATIC FISTULA AFTER PANCREATODUODENECTOMY: INDEPENDENT EXTERNAL VALIDATION FOR OPEN AND LAPAROSCOPIC APPROACHES Christopher R Shubert, MD, Amy E Wagie, MHA, Michael B Farnell, MD, David M Nagorney, MD, Florencia G Que, MD, KMarie R Lombardo, MD, Mark J Truty, MD, Rory L Smoot, MD, Michael L Kendrick; Mayo Clinic, Rochester, US

INTRODUCTION: Callery and colleagues reported a clinical risk score (CRS) to predict postoperative pancreatic fistula (POPF) after pancreatoduodenectomy (PD). An independent, external validation has not been performed. Our hypothesis is that CRS predicts POPF following both laparoscopic and open PD.

METHODS: Retrospective review of PD from 1/2007-2/2014. CRS was calculated for each patient and POPF graded using ISGPF criteria. Grade B and C leaks defined as clinically significant. CRS performance was measured based on sensitivity, specificity, positive and negative predictive value, accuracy and R2.

RESULTS: 808 patients met inclusion criteria; 539 (66.7%) open and 269 (33.3%) laparoscopic. CRS assigned 134 patients as high risk, 492 intermediate, 135 low, and 47 as negligible risk.

POPF occurred in 191 (23.6%) patients; A=3.8%, B=14.2%, C= 5.6%. POPF increased with risk category (R^2 =0.94 all, 0.89 open, and 0.97 laparoscopic). See Figure.

CRS had a sensitivity of 95% and a negative predictive value of 96%. Grade A POPF also increased with increasing CRS. EBL score alone did not correlate with POPF(R^2 = .05).
CONCLUSION: Our study has independently validated the CRS by demonstrating the model’s performance predicting POPF for both laparoscopic and open PD. Predictive performance was greater for laparoscopic PD. Lack of correlation with EBL suggests CRS might be tailored for improved performance. CRS remains a clinically useful tool for PD risk stratification and allows for targeted risk reduction measures.

**S044 PROSPECTIVE SCORING OF ALL ADVERSE EVENTS WITHIN 90 DAYS: THE STANDARD FOR REPORTING SURGICAL OUTCOMES AFTER PANCREATECTOMY** Morgan Bruno, RN, MS, ACNP-BC, Lilian Schwarz, MD, Nathan Parker, MPH, Laura Prakash, MD, Yoshihiro Mise, MD, Jeffrey E Lee, MD, Jean-Nicolas Vauthey, MD, Thomas Aloia, MD, Claudius Conrad, MD, Jason B Fleming, MD, Matthew H Katz, MD; MD Anderson, Houston, US

BACKGROUND: The rate of adverse events following pancreatectomy is widely reported as a measure of surgical quality. However, morbidity data is routinely acquired retrospectively and reported at 30 days. We hypothesized that morbidity following pancreatectomy is therefore underreported. We sought to compare rates of adverse events calculated at multiple time points after pancreatectomy.

METHODS: We instituted a prospective surveillance system to identify, categorize, and grade the severity of all adverse events following pancreatectomy, using the modified ACCORDION system and International Study Group of Pancreatic Surgery definitions. All patients and clinical events were directly and actively monitored for at least 90 days after surgery by a trained nurse practitioner.

RESULTS: Among 315 patients who received prospective surveillance, 239 (76%) suffered 500 unique adverse events. The absolute number of unique adverse events increased by 32% between index discharge and 90 days and by 10% between 30 and 90 days. The number of severe adverse events increased by 96% between discharge and 90 days and by 29% between 30 and 90 days. Sixteen percent of patients had experienced at least 1 severe adverse event at index discharge, 25% at 30 days, and 29% at 90 days. Among the 80 readmissions that occurred within 90 days, 28 (35%) occurred later than 30 days from pancreatectomy.
CONCLUSIONS: Approximately one-third of severe adverse events and readmissions are reported more than 30 days after surgery. All adverse events that occur within 90 days after surgery must be reported to accurately characterize morbidity associated with pancreatectomy.

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**S045 DISCORDANCE BETWEEN PERIOPERATIVE ANTIBIOTIC TREATMENT AND WOUND INFECTION CULTURES IN PATIENTS UNDERGOING PANCREATEICODUODENECTOMY: A MULTICENTER 5-YEAR STUDY** Zhi Ven Fong, MD,1 Matthew T McMillan, BS2, Giovanni Marchegiani, MD3, Klaus Sahora, MD3, Grace C Lee, MD1, Giuseppe Malleo3, Matteo De Pastena, MD3, Cristina R Ferrone, MD1, Claudio Bassi, MD3, Keith D Lillemoe1, Charles M Vollmer2, Carlos Fernández-del Castillo1; 1Massachusetts General Hospital, 2University of Pennsylvania, 3University of Verona, Natick, US

INTRODUCTION: Wound infections after pancreaticoduodenectomy (PD) are common, and the antibiotic prophylaxis given to prevent them is often done with cephalosporin. However, these measures are rarely guided by microbiology data pertinent to PD, particularly in patients with biliary stents, and its effectiveness is largely unknown.

METHODS: The pancreatic resection databases of 3 institutions were queried for patients undergoing PD over a 5-year period, and patients with wound infections identified. Perioperative variables and microbiology data were analyzed.

RESULTS: A total of 1623 patients who underwent PD were identified. The predominant perioperative antibiotics used at institution A, B and C were Cefoxitin, Cefazolin/Metronidazole and Ampicillin/Sulbactam respectively. The wound infection rate was 8.2%, and was not different across institutions. Of the 133 wound infections, 67% were deep tissue infection, occurring at a median of 8 days after PD. Up to 40% of wound infections required home visiting nurse services on discharge, and almost 30% of all PD readmissions were attributed to wound infection. Preoperative biliary manipulation was the strongest predictor of postoperative wound infection (OR 2.2, p=0.03). There was marked institutional variation in the type of microorganisms cultured from the wound infection (Table 1, p=0.001). Similarly, antibiotic resistance patterns varied (p<0.001).
CONCLUSION: To our knowledge, this is the first study reporting on microbiology data of wound infections in patients undergoing PD. Based on institution-specific microorganism predominance and antibiotic resistance patterns, all 3 institutions are not using effective antibiotic prophylaxis. Institution-specific internal reviews should amend current protocols for antibiotic prophylaxis to reduce the incidence of wound infections following PD.

S046 A NOVEL RISK SCORING SYSTEM RELIABLY PREDICTS READMISSION FOLLOWING PANCREATECTOMY  
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BACKGROUND: Post-operative readmissions have been proposed by Medicare as a quality metric and may impact hospital reimbursement. Since readmission following pancreatectomy is common, we sought to identify factors associated with readmission in order to establish a predictive risk scoring system.

STUDY DESIGN: A retrospective analysis of 2,360 pancreatectomies performed at nine, high-volume pancreatic centers between 2005 and 2011 was performed. Forty-five factors highly associated with readmission were identified. To derive and validate the RSS, the population was randomly divided into two cohorts in a 4:1 fashion. A multivariable logistic regression model was constructed and scores were assigned based on the relative odds ratio of each independent predictor. A composite Readmission After Pancreatectomy (RAP) score was generated and then stratified to create risk groups.

RESULTS: Overall, 464 (19.7%) patients were readmitted within 90-days. Eight pre- and postoperative factors, including prior myocardial infarction (OR 2.03), ASA Class ≥ 3 (OR 1.34), dementia (OR 6.22), hemorrhage (OR 1.81), delayed gastric emptying (OR 1.78), surgical site infection (OR 3.31), sepsis (OR 3.10) and short length of stay (OR 1.51), were independently predictive of readmission. The 32-point RAP score generated from the derivation cohort was highly predictive of readmission in the validation cohort (AUC 0.72). The low (0-3), intermediate (4-7) and high risk (>7) groups correlated to 11.7%, 17.5% and 45.4% observed readmission rates, respectively (p<0.001).

CONCLUSIONS: The RAP score is a novel and clinically useful risk scoring system for readmission following pancreatectomy. Identification of high-risk patients may allow for clinical optimization prior to discharge, thus mitigating health care costs through focused preventive measures. It also has potential to serve as a new metric for comparative research and quality assessment.
S047 THE RESULTS OF TWO RANDOMIZED CLINICAL TRIALS TO REDUCE DELAYED GASTRIC EMPTYING AFTER PANCREATICODUODENECTOMY  Manabu Kawai, MD, PhD, Seiko Hirono, MD, PhD, Ken-ichi Okada, MD, PhD, Motoki Miyazawa, MD, PhD, Astusi Shimizu, MD, PhD, Yuji Kitahata, MD, Hiroki Yamaue, MD, PhD; Wakayama Medical University, Second Department of Surgery, Wakayama, JP

OBJECTIVE: Delayed gastric emptying (DGE) after pancreatoduodenectomy results in a frustrating complication and significant prolongation of hospital stays. We performed two randomized controlled trials (RCTs) to reduce the incidence of DGE. At first, we performed a RCT to determine whether antecolic or retrocolic duodenojejunostomy during pylorus-preserving pancreaticoduodenectomy (PpPD) was associated with DGE. Next, to preserve pylorus ring with denervation and devascularization may be a risk factor of DGE after PpPD. We conducted a RCT to confirm the hypothesis that pylorus-resecting pancreaticoduodenectomy (PrPD) reduced the incidence of DGE compared to PpPD.

METHODS: Comparison between retrocolic route and antecolic route; 40 patients with pancreatic or periampullary lesions were enrolled for this study. Just before duodenojejunostomy during PpPD, the patients were randomly assigned to undergo either antecolic or retrocolic duodenostomy.

Comparison between PpPD and PrPD: As the next terms, 130 patients with pancreatic or periampullary lesions were randomized to PpPD or to PrPD. In PpPD, the proximal duodenum was divided 3cm distal to the pylorus ring. In PrPD, the stomach was divided just adjacent the pylorus ring and the nearly total stomach more than 95% was preserved. Short-term and long-term outcomes were evaluated between PpPD and PrPD. Primary endpoint is the incidence of DGE.

RESULTS: Comparison between retrocolic route and antecolic route: DGE occurred in 5% of patients with the antecolic route for duodenojejunostomy. On the other hands, DGE occurred 50% with the retrocolic route. Those with the antecolic route had a significantly shorter duration of postoperative nasogastric tube drainage than did those with the retrocolic route (4.2 days versus 18.9 days, respectively. By postoperative day 14, all patients with the antecolic route could take solid foods, while only 55% (11 of 20) of the patients with the retrocolic route could take solid foods.

Comparison between PpPD and PrPD: Of 130 patients who were enrolled in this study, 64 patients were randomized to PpPD and 66 to PrPD. The overall incidence of DGE in this RCT was 10.8% (14 of 130 patients): the overall incidence of DGE was significantly lower in PrPD (4.5%) than PpPD (17.2%) (P = 0.0244). DGE was classified into three categories proposed by the International Study Group of Pancreatic Surgery. The proposed clinical grading classified 11 cases of DGE in PpPD into grades A (n=6), B (n=5), and C (n=0), and one case in PrPD into each of the three grades. In long-term outcomes, weight loss > grade 2 (Common Terminology Criteria for Adverse Events, Ver. 4.0) at 24 months after surgery improved significantly in PrPD (16.2%) compared with PpPD (42.2%) (P = 0.011). Nutritional status and late postoperative complications were similar between PpPD and PrPD.

CONCLUSION: These studies clarified that antecolic route significantly reduced DGE compared to retrocolic route, and that PrPD could lead to a significant reduction in the incidence of DGE compared with PpPD. Moreover, PrPD offered similar long-term outcomes with PpPD.
S048 PANCREATICOJEJUNOSTOMY STRicture AFTER PANCREATODUODENECTOMY: OUTCOMES AFTER OPERATIVE REVISION  

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INTRODUCTION: The natural history of radiographic strictures of the pancreaticojunostomy (PJ) after pancreatoduodenectomy (PD) is difficult to characterize. The limited long-term survival after PD for pancreatic cancer and the ductal abnormalities of the remnant gland after PD for chronic pancreatitis hinder prospective studies of PJ strictures. The purpose of this study was to identify the indications for operative revision of PJ strictures after PD for benign and malignant disease and to evaluate its safety and clinical efficacy.

METHODS: A retrospective review of all patients undergoing operative revision of PJ strictures following PD at a single academic institution over an 8 year period was performed (2006-2014).

RESULTS: Among 1,175 patients who underwent PD during the study period, 27 (2.2%) were selected for revision of a radiographically (33% CT, 56% MRCP) detectable PJ stricture associated clinically with recurrent acute pancreatitis and upper abdominal pain. Within the PJ revision group, 26% had undergone PD for cancer, 19% for chronic pancreatitis, and 35% for benign periampullary tumors. Post-PD pancreatic fistula (PF) and/or intra-abdominal abscess had occurred in 30% of patients. The median time from PD to PJ stricture revision was 55 mos (range 3.5-270 mos). Median pancreatic duct diameter was 5.2 mm (range, 2-9 mm) at the time of PJ revision and correlated closely with pre-operative imaging estimation (6.2 mm). The median increase in the main pancreatic duct diameter between the time of PD and PJ revision was 2 mm (range 0-5 mm) with an initial pancreatic duct range of 1-6 mm. PJ revision was achieved with a two-layer duct-to-mucosa anastomosis in 24 (89%) patients and lateral pancreaticojejunostomy in 3 (11%). Average operative time was 232 min (range 98-412 min) with estimated blood loss of 299 mL (range 25-3000 mL). Thirty-three percent of patients required operative revision of a hepaticojejunostomy stricture and 15% required revision of a gastrojejunostomy or duodenojejunostomy stricture at the time of PJ revision. The overall morbidity after PJ revision was 26% (4% PF) with a median hospital LOS of 6 days (range 3-21 days). No postoperative mortality occurred. Twenty-one (78%) patients experienced complete resolution of symptoms without recurrent acute pancreatitis after PJ revision during a median follow-up of 30 mos (range 2.5-96 mos) with durable symptom resolution reported among 60% of patients with chronic pancreatitis.

CONCLUSIONS: Surgical revision of PJ strictures is technically safe and clinically effective for selected patients who experience recurrent acute pancreatitis after PD for either benign or malignant disease.
**S049 NATURAL HISTORY OF THE PANCREATIC REMNANT AFTER RESECTION OF IPMN: PRELIMINARY RESULTS FROM A MULTI-INSTITUTIONAL INTERNATIONAL STUDY** Marco Del Chiaro, MD, PhD, FACS; Christopher Wolfgang, MD; Giuseppe Malleo, MD; Philippe Levy, MD; Alain Sauvanet, MD; Mustapha Adham, MD; Julie Perinel; Marc Besellink, MD; Marco Bruno, MD; Hartelijke Groet, MD; Alessandro Zerbi, MD; Francesca Gavazzi, MD; Riccardo Casadei, MD; Claudio Ricci, MD; Guralp Ceyhan; Edil Barish; Claudio De Angelis, MD; Mohammed Abu Hilal; Helmut Friess, MD; Neda Rezaee, MD; Ralf Segersvård, MD; Roberto Salvia, MD; Richard Schulick, MD, FACS; Karolinska Institutet; Johns Hopkins University; University of Verona; Hôpital Beaujon, Paris; University of Lyon; AMC Amsterdam; Erasmus Medical Center, Rotterdam; Istituto Clinico Humanitas, Milan; University of Bologna; Munich University; University of Colorado, Denver; Ospedale Le Molinette, Torino; Southampton University, Stockholm, SE

**BACKGROUND:** The natural history of the pancreas remnant in patients who have had partial pancreatectomy for IPMN has been investigated in studies containing a relatively small number of patients and with short follow-up.

**AIM:** The aim of this study is to collect a large number of patients who have had partial pancreatectomy for IPMN and then followed for a long period of time to better understand the natural history of this disease and to give determine the best follow-up strategies and reasons for surgical intervention.

**METHODS:** A multi-institutional trial was planned in the European Study Group for Cystic Tumors of the Pancreas in order to investigate the recurrence pattern and the prognostic factors influencing the recurrence of IPMN after partial pancreatectomy. A preliminary analysis on data coming from 1686 patients included in the study is presented in this report. There were 896 males (53.1%) and 790 females (46.9%). The majority of the data included were from prospectively collected data performed at the various institutions.

**RESULTS:** The mean age was 68 yrs. The overall recurrence rate was 15.7%. In 12.5% of patients the recurrence was represented by progression of clinically significant IPMN in the pancreas remnant, 2.2% developed liver metastasis, 0.4% peritoneal carcinomatosis, 0.3% local recurrence and 0.2% new onset pancreas cancer. The overall risk of progression of the diseases at 1, 5 and 10 yrs was 7%, 14% and 21% respectively. Comparing the 1, 5 and 10 yrs risk of progression in different morphologic types, mixed-type IPMN showed a worse prognosis (5%, 24.3% and 37.6%) compared to main duct type (4.3%, 18.2% and 25.7%) and branch duct type (6%, 15% and 28.7%) (p=0.01). Comparing histology, patients with pancreatico-biliary type showed a 1, 5 and 10 yrs risk of recurrence (7.2%, 50.2% and 62.2%) higher than gastric (2.4%, 17.1% and 18.7%), intestinal (2.6%, 11.4% and 18.6%) and oncocytic (5.8%, 15.3% and 15.3%) (p<0.0001). Data on frozen section of the resection margin was available in 747 patients. A positive resection margin was associated with an increased risk of recurrence at 1, 5 and 10 yrs (7.6%, 27.4% and 35.5% vs 3%, 12.6% and 18.5% respectively; p<0.0001).

**CONCLUSION:** Preliminary analysis of our data show that mixed type IPMN, pancreatico-biliary histology and a positive resection margin are negative prognostic factors for recurrence in patients with IPMN who have had partial pancreatectomy. The rate of progression or new onset of IPMN in the pancreas remnant are similar to other data published in smaller series. The risk of developing pancreas cancer in resected IPMN patients seems to be very low.

*Oral Abstracts*
**SO50 A CONTEMPORARY EVALUATION OF THE CAUSE OF DEATH AND LONG-TERM QUALITY OF LIFE AFTER TOTAL PANCREATECTOMY**

**Jin He, MD, PhD, Wenchuan Wu, MD, Rebecca Dodson, MD, Martin A Makary, MD, MPH, Nita Ahuja, MD, Kenzo Hirose, MD, John L Cameron, MD, Frederic E Eckhauser, MD, Matthew J Weiss, MD, Timothy M Pawlik, MD, MPH, PhD, Christopher L Wolfgang, MD, PhD; Johns Hopkins Medical Institutions, Baltimore, US**

**BACKGROUND:** A total pancreatectomy (TP) may be considered for diffuse disease of the pancreas. However, the health implications of TP have not been studied in the contemporary era. We report the cause of death and quality of life (QoL) after TP.

**METHODS:** 186 patients underwent TP between 2000 and 2013. 100 who remained alive and were sent a questionnaire - Short Form-36 (SF-36), the Audit of Diabetes Dependent QoL (ADD QoL), and the European Organization for Research and Treatment in Cancer Pancreas 26 (EORTC-PAN-26).

**RESULTS:** The majority of mortalities in this study were cancer-related (n=81). Only one of the 86 patients died of diabetes complications. In the 100 surviving patients, the median follow-up was 5.9 years. 36 (36%) patients returned the survey. All required pancreatic enzymes and insulin. 4 required 7 hospitalizations for hypoglycemia. SF-36 demonstrated six domains decreased compared with an age and gender-matched national population. Only physical and emotional domains were decreased compared with self-matched preoperative state (p<0.01 and p<0.05, respectively). ADD QoL showed an overall decrease in QoL related to the diabetes mellitus (p<0.01). When compared to insulin-dependent diabetics from other causes, 11 of 19 domains showed no significant difference in QoL. EORTC-PAN-26 showed more than 50% of patients had moderate to severe changes in 3 of 7 domains.

**CONCLUSION:** Mortality from diabetic complication following TP is uncommon. QoL after TP is decreased. However, the changes are comparable to self-matched preoperative assessment or insulin-dependent diabetics from other causes. Accounting for the overall health changes, TP should be considered an option in selected patients.

<table>
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*Oral Abstracts*
INTRODUCTION: There is a general belief that pancreatectomy worsens glucose tolerance. However, experiences with bariatric surgery suggests that diabetes mellitus (DM) resolves after Roux en Y gastric bypass or biliopancreatic diversion, and the anatomic change after pancreatoduodenectomy (PD) resembles these operations, bypassing the duodenum. Therefore, changes in glucose metabolism after pancreatectomy were explored according to types of operation.

METHODS: Between 2007 and 2013, 218 consecutive patients with pancreatic disease underwent surgical treatment at Seoul National University Hospital, Seoul, Korea. Serial fasting blood glucose oral glucose tolerance test, serum insulin and serum c-peptide was examined at preoperative and postoperative 12 months. Patients with preoperative DM was classified as known DM and undetected DM (when the patient had biochemical profile consistent with DM but was not diagnosed as DM before the examination). Factors associated with changes in glucose metabolism were evaluated.

RESULTS: Of the study subjects, 112 patients underwent PD and 106 patients underwent distal pancreatectomy (DP). Pancreatic cancer consisted 38.4% (n=43) and 28.3% (n=30) in PD and DP group, respectively. Preoperative DM was identified in 88 patients (40.4%). DM was more frequent in PD than DP group (n=57, 50.9% vs. n=31, 29.2%, p=0.001). Undetected DM consisted 54.4% in PD group and 51.6% in DP group. Total of 27 patients resolved DM. DM resolution rate was higher in PD (n=23, 40.4%) than DP (n=4, 12.9%) group (p=0.008). Undetected DM showed higher resolution rate than known DM (58.1% vs. 19.2%). C-peptide secretion decreased after operation in both PD (p<0.001) and DP group (p<0.001). However, FBS (p=0.001), PP2 (p<0.001), and HOMA-IR (p=0.005) significantly decreased after PD but not after DP. Multivariate analysis revealed PD had significantly higher rate of DM resolution (OR 7.790, p=0.003) and undetected DM had marginal significance (OR 3.268, p=0.078). When analysis was confined to pancreatic cancer patients (n=73), proportion of patients with DM was higher in PD than DP group (n=26, 60.5% vs. n=11, 36.7%, p=0.045). Postoperative DM resolution rate was higher in PD than DP group (34.6% vs. 0%, p=0.036). Undetected DM showed higher resolution rate than known DM (58.3% vs. 14.3%). Changes in biochemical profiles showed similar pattern with overall patients. When pancreatic cancer and other pancreatic diseases were compared, DM resolution was not related with primary disease but undetected DM had higher rate of DM resolution after PD (58.1% vs. 19.2%, p=0.003).

CONCLUSION: More than 30% of the patients undergoing pancreatectomy resolve DM, and it occurs more frequently after PD and in patients with undetected DM. Although c-peptide secretion decreases after pancreatectomy, profound decrease in insulin resistance and improved glucose stimulated insulin secretion improves glucose metabolism after PD. These finding suggest that PD-associated anatomic change may play a role in resolution of DM after PD.
S052 NEOADJUVANT CHEMORADIATION FOR T4 PANCREATIC ADENOCARCINOMA: A GEMCITABINE, DOCETAXEL, AND CAPECITABINE PROTOCOL OFFERS SUPERIOR OUTCOMES

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BACKGROUND: Of the 45,000 patients presenting with pancreatic adenocarcinoma annually, approximately 30% have vascular involvement. Increased peri-operative mortality, rare R0 margins and poor overall/recurrence free survival limits surgical options in patients with involvement of the celiac, superior mesenteric or hepatic arteries; these patients are commonly relegated to palliative strategies. This prospective Phase 2 study was undertaken to assess toxicity, resectability, and survival in T4 pancreatic adenocarcinoma patients treated with neoadjuvant gemcitabine, docetaxel, and capecitabine (GTX) and gemcitabine and capecitabine (GX)/radiation therapy (RT).

METHODS: Patients presenting between February 2010 and December 2013 with locally advanced disease because of arterial involvement based on original diagnostic studies and for whom surgery would be possible if the tumor regressed were considered eligible. GTX was administered on a 3-week cycle for 6 cycles, followed by intensity-modulated radiation therapy or conformal fields to 5040 cGy along with capecitabine at 1000 mg twice a day for 5 days and gemcitabine at 750 mg/m2 over the course of 90 minutes on day 5 of weeks 1, 2, 4, and 5 of RT.

RESULTS: Thirty-four patients (mean age, 64 years; range, 44-83 years) deemed unresectable because of arterial involvement were studied. The 1-year survival rate was 71% (24 of 34 patients), and the median survival was 29 months (95% confidence interval, 21-38 months). The GTX and GX/RT treatments were well tolerated regarding drug-related toxicities. Although 3 patients progressed while on therapy and one died from sepsis, no patient developed metastatic disease while on neoadjuvant therapy. The remaining 30 (88%) patients underwent surgery: 25 had a Whipple, 2 underwent distal pancreatectomy, 2 underwent Appleby procedures, and 1 underwent electroporation without resection of the residual mass. Of the resected patients, 20 (69%) underwent R0 resection, and 9 (31%) underwent R1 (tumor cells within 2 mm of margin). Twenty-one patients had negative lymph nodes. Thirteen patients (38%) did not relapse (range, 5-491 months). Local recurrences were seen in 2 patients (5.9%), suggesting the benefit of RT.

DISCUSSION/CONCLUSION: GTX plus GX/RT is an effective neoadjuvant regimen that can be safely administered, and is associated with a high response rate, a high rate of R0 resections, and prolonged overall survival. In comparison with reports in the literature, in which the median survival of patients with locally advanced, borderline-resectable disease has not exceeded 13.4 months, we demonstrated a 1-year survival rate of 82% and a projected median survival of 29 months in patients with initially unresectable pancreatic cancer because of arterial involvement.
S053 THE ROLE OF NEOADJUVANT STEREOTACTIC BODY RADIATION THERAPY IN BORDERLINE RESECTABLE AND LOCALLY ADVANCED PANCREATIC CANCER

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BACKGROUND: Recent prospective data demonstrates that stereotactic body radiation therapy (SBRT) is safe and effective in locally advanced pancreatic cancer (LAPC); however, little is known regarding the role of SBRT in the neoadjuvant setting. This study compared the role of neoadjuvant chemotherapy with and without SBRT in patients with borderline resectable pancreatic cancer (BRPC) or LAPC.

METHODS: All patients who underwent surgical resection following chemotherapy alone or induction chemotherapy followed by SBRT (SBRT group) were retrospectively reviewed. Disease stage was determined based on criteria outlined by Americas Hepato-Pancreato-Biliary Association/Society of Surgical Oncology/Society for Surgery of the Alimentary Tract (AHPBA/SSO/SSAT) during multidisciplinary review. Chemotherapy regimens were heterogeneous; the cumulative SBRT dose range was 25-33 Gy in 5 fractions. Pathologic complete response was defined as no residual tumor and near pathologic complete response was defined as microscopic foci of single cells, or groups of single cells, of adenocarcinoma scattered among an area of dense fibrosis.

RESULTS: Among 76 resected patients with BRPC or LAPC, 37 received chemotherapy alone and 39 received induction chemotherapy followed by SBRT. Median age was 60.4 (range, 44.2-83.6) and 64.4 years (range, 39.2-83.2) in the SBRT group and chemotherapy alone group, respectively. FOLFIRINOX (5-fluorouracil, leucovorin, irinotecan, oxaliplatin)-based chemotherapy was administered to 61.5% and 45.9% of SBRT and chemotherapy alone patients, respectively. The majority (61.5%) of SBRT patients were deemed unresectable while only 29.7% in the chemotherapy alone group had LAPC. Pancreaticoduodenectomy was performed in 66.7% of SBRT patients compared to 75.7% of chemotherapy alone patients. Median time to surgery was 2.0 months (range, 0.1-10.5) from the end of SBRT.

The overall rate of margin-negative resection in patients who received SBRT was 87.2%, with rates of 86.7% in BRPC and 87.5% in LAPC. In comparison, the overall margin-negative resection rate in chemotherapy alone patients was 48.6% (34.3% in BRPC, 54.5% in LAPC). Node-negative resections were achieved in 71.7% of patients who received SBRT (60.0% in BRPC, 79.2% in LAPC) and 45.9% of patients who received chemotherapy alone (50.0% in BRPC, 36.4% in LAPC). The pathologic complete response rate was 10.3% in the SBRT group (6.7% in BRPC, 12.5% in LAPC) and 2.7% in the chemotherapy alone group (0% in BRPC, 9.1% in LAPC). The near pathologic complete response rate was 23.1% in the SBRT group (20.0% in BRPC, 25.0% in LAPC) and 5.4% in the chemotherapy alone group (7.7% in BRPC, 0% in LAPC).
CONCLUSIONS: Selected patients initially deemed unresectable may now undergo resection after receiving neoadjuvant induction chemotherapy and SBRT. Furthermore, improved surgical outcomes are observed with neoadjuvant SBRT in comparison with neoadjuvant chemotherapy alone. Longer follow-up is needed to validate its impact on survival.

**S054 PERI-OPERATIVE OUTCOMES FOLLOWING PANCREATECTOMY WITH CONCOMITANT ARTERIAL PROCEDURES**

**May C Tee, MD, MPH**, Michael B Farnell, MD, Michael L Kendrick, MD, David M Nagorney, MD, Adam C Krajewski, BEng, Florencia G Que, MD, KMarie Reid-Lombardo, MD, MS, Rory L Smoot, MD, Mark J Truty, MD, MS; Mayo Clinic, Department of Surgery, Division of Subspecialty General Surgery, Rochester, US

OBJECTIVE: Advances in care, technique, and therapeutics have led to expansion of complex pancreatic resections. As indications evolve, particularly with surgical salvage procedures, the aim of this study is to define/identify outcome predictors for pancreatectomy with concomitant arterial procedures.

METHODS: Single-institution review identifying pancreatectomies (1/88-9/14) with concomitant visceral arterial (celiac axis/hepatic artery/superior mesenteric artery) procedures was conducted. Patient demographics, co-morbidities, procedures, and peri-operative outcomes were collected. Univariate analyses were conducted identifying predictors of mortality/morbidity, re-operation, ICU admission, LOS, and readmission.

RESULTS: Sixty-five patients underwent pancreatectomy (whipple-61.5%, distal-29.2%, total-9.3%) with concurrent arterial procedures: resection/ligation or repair/reconstruction. Major revascularization was defined as multi-vessel (2 or more) complex reconstruction with graft/conduit. Concurrent venous resection/reconstruction was performed in 21 (23.1%) patients. Malignancy was indication in 84.6% patients. Significant outcomes/predictive factors are summarized. Perioperative mortality/major morbidity was 13.8%/33.8% respectively; no patient-specific risk factors were prognostic. Pancreatic fistula (POPF) with hemorrhage (PPH) was highly predictive for worsened outcomes and primary determinants of death/complications, with patients undergoing major revascularization at highest risk.

CONCLUSIONS: Post-pancreatectomy mortality/morbidity is substantial with concomitant arterial procedures. POPF/PPH, rather than patient-specific factors, were significant predictors of poor outcomes. Major revascularization conveys highest risk. Methods to decrease incidence/severity of POPF/PPH are critical when performing pancreatectomy combined with arterial procedures, as typical complication management measures are limited after surgical arterial alterations. Consideration of total pancreatectomy, particularly in those requiring major revascularization, may mitigate this risk.
ORAL ABSTRACTS

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**S055 PANCREATECTOMY PLUS RESECTION OF PERIPANCREATIC VESSELS: IMPACT OF POST-OPERATIVE COMPLICATIONS ON LONG-TERM SURVIVAL** Emanuele Federico Kauffmann, Niccolò Napoli, Sara Iacopi, Francesca Costa, Fabio Vistoli, Ugo Boggi; Division of General and Transplant Surgery, University of Pisa, Pisa, IT

INTRODUCTION: One of the historical concerns limiting wider adoption of pancreatectomy plus resection of peripancreatic vessels (PRPV) is the higher risk of post-operative complications (POC). POC prolong hospital stay and increase direct and indirect health costs. Even more importantly, patients developing POC could face worst long-term survival as a consequence of delayed recovery, inability to timely receive adjuvant therapies or to tolerate full dose treatments.

We herein report on a large series of PRPV and describe their long-term survival, based on occurrence and severity of POC.
METHODS: Between May 1987 and September 2014, 357 patients underwent PRPV, including isolated vein resection (IVR) in 265 (74.2%), isolated arterial resection (IAR) in 28 (7.8%) and combined arterial and venous resection (CAVR) in 64 (17.9%). Data were prospectively recorded in a computer data base and analyzed retrospectively. Twenty-eight patients who died as a consequence of POC (7.8%) and 12 patients with incomplete follow-up information were excluded from survival analysis. Severity of POC was graded according to the Clavien-Dindo (C-D) classification.

RESULTS: Occurrence, severity, and prognostic implications of POC in PRPV in the 317 eligible patients are summarized in table 1 and table 2.

DISCUSSION/CONCLUSION: We have shown that POC reduce long-term survival after PRPV. However, even in patients with POC mean survival time after PRPV, especially after IVR, remains acceptable and probably exceeds the survival of patients undergoing palliation with tumors in the same stage.

The main bias of this analysis is the very long study period. Although the majority of patients were operated in recent years, it is reasonable to expect that our ability to manage POC improved over time. Further, availability and efficacy of neoadjuvant and adjuvant treatments has also improved during the last 27 years.

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<th>Table 1. Incidence and severity of POC after PRPV.</th>
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S056 IMPORTANCE OF PREOPERATIVE CA 19-9 LEVELS IN PATIENTS WITH LOCALIZED PANCREATIC CANCER TREATED WITH NEOADJUVANT THERAPY

BACKGROUND: The prognostic importance of preoperative CA19-9 levels in pancreatic cancer (PC) is controversial. The association of neoadjuvant therapy, preoperative CA19-9 and survival in pts with localized PC is unclear.
METHODS: CA19-9 levels were measured prior to therapy (baseline) and after neoadjuvant therapy prior to surgery (preop) in pts with resectable and borderline resectable (BLR) PC. CA19-9 levels were classified as normal or elevated based on a cutoff of 36 U/mL. Pts were grouped by their preop CA19-9 level; GrpA (normal baseline CA19-9), GrpB (elevated baseline CA19-9 with normal preop CA19-9), GrpC (elevated baseline CA19-9 with decreased preop CA19-9), or GrpD (elevated baseline CA19-9 and increased preop CA19-9).

RESULTS: CA19-9 was evaluable in 225 pts prior to any treatment; 97 (43%) were resectable and 128 (57%) were BLR. Baseline CA19-9 was normal (GrpA) in 53 (24%) and elevated in 172 (76%). Of the 172 pts with elevated baseline CA19-9, 60 (35%) had a normal preop CA19-9 (GrpB), 85 (49%) had a decreased but elevated preop CA19-9 (GrpC); and 27 (16%) had an elevated baseline and increased preop CA19-9 (GrpD). No differences were observed in preop CA19-9 grouping and clinical stage. Completion of all neoadjuvant therapy including surgery occurred in 164 (73%) of the 225 pts; 41 (77%) of 53 GrpA, 52 (87%) of 60 GrpB, 59 (69%) of 85 GrpC, and 12 (44%) of 27 GrpD pts (P < 0.001). Of the 164 pts who completed all therapy, node positive disease was present in 11 (27%) of 41 GrpA, 11 (21%) of 52 GrpB, 27 (46%) of 59 GrpC, and 5 (42%) of 12 GrpD pts (p = 0.03). Median survival of all 225 pts was 24 months; median survival for Grps A, B, C, and D was 34, 45, 20, and 17 months, respectively (p = 0.0004). Median survival for the 164 pts who completed all therapy including surgery was 37 vs. 11 months for the 61 pts who were not resected.

CONCLUSIONS: Preop CA19-9 level after neoadjuvant therapy was a powerful predictor of outcome; a normal level (Grps A&B), even if elevated prior to neoadjuvant therapy (Grp B), was associated with a superior survival as compared to those whose preop CA19-9 remained elevated. This data has important implications for treatment sequencing, pts selection for surgery, and the use of postoperative systemic therapy.

**S057 IMPACT OF CHEMORADIOThERAPY FOLLOWED BY SURGERY FOR LOCALLy ADVANCED PANCREATIC ADENOCARCINOMA – COMPARISON OF CLINICOPATHOLOGICAL FEATURES BETWEEN SINGLE-AGENT GEMCITABINE AND S-1/GEMCITABINE COMBINATION THERAPY**

Masashi Kishiwada, MD, PhD, Yusuke Iizawa, MD, Hiroyuki Kato, MD, PhD, Yasuhiro Murata, MD, PhD, Akihiro Tanemura, MD, PhD, Naohisa Kuriyama, MD, PhD, Yoshinori Azumi, MD, PhD, Shugo Mizuno, MD, PhD, Masanobu Usui, MD, PhD, Hiroyuki Sakurai, MD, PhD, Shuji Isaji, MD, PhD; Hepatobiliary Pancreatic and Transplant Surgery, Mie University School of Medicine, Tsu, Japan

**INTRODUCTION:** Our institution has been performing chemoradiotherapy (CRT) followed by surgery for locally advanced pancreatic ductal adenocarcinoma (PDAC). We previously used single-agent gemcitabine (Gem) as chemotherapy and recently switched to combination therapy of S-1 (orally active combination of tegafur, gimeracil and oteracil) and Gem (GS) aiming at improvement of treatment outcome. There have been few studies comparing clinicopathological effect between different CRT regimens for PDAC. The purpose of this study was to evaluate clinicopathological response between Gem-CRT and GS-CRT for PDAC.

**PATIENTS AND METHODS:** We divided the consecutive 208 patients with cytologically/histologically proven PDAC into the two groups: Gem-CRT (2005.2-2011.9, n=124) and GS-CRT (2011.10-2013.12, n=84). CRT regimen: radiation therapy (45 to 50.4 Gy in 25 to
28 fractions) with chemotherapy which included Gem (800mg/m2, day1, 8, 22, 29) or S-1 (60mg/m2, day1-21 and day 29-49) + Gem (600mg/m2, day8, 22, 36, 50). Curative-intent resection was performed by reassessment after completion of CRT. Tumor resectability was classified into resectable (R), borderline resectable (BR) and unresectable (UR) according to NCCN guideline (2014). We compared perioperative various factors in both groups including CA 19-9 reduction rate after CRT, resection rate, margin-negative (R0) resection rate, histopathological effect (lymph node metastases, tumor reduction rate using Evans classification) and survival rates according to resectability.

RESULTS: The number of resectability groups was 16 in R, 57 in BR and 51 in UR in Gem-CRT, respectively, and 2 in R, 43 in BR and 39 in UR in GS-CRT, respectively. There were no significant differences in CRT completion rate and inoperable rate at the reevaluation and laparotomy. CA 19-9 reduction of more than 50% after CRT according to R/BR/UR was significantly higher in GS-CRT than in Gem-CRT: 100%/63%/61% vs. 29%/57%/37% (P=0.013). Resection rate was similar: 100%/83%/49% vs. 69%/78%/46%, while R0 resection rate was significantly higher in GS-CRT: 100%/94%/74% vs. 100%/79%/48% (P=0.034). Positive rate of lymph node metastasis according to R/BR/UR showed no significant difference: 0%/42%/35% vs. 11%/42%/35% (P=0.924), while the rate of tumor destruction of more than 50% was significantly higher in GS-CRT: 0%/60%/32% vs. 44%/26%/17% (P=0.014). There was no significant difference in median survival time (MST): 20.1 M in GS-CRT vs.16.2 M in Gem-CRT (P=0.203). Although MST after resection was very similar between two groups: 22.8 M in GS-CRT vs. MST 25.2 M in Gem-CRT (P=0.719), interestingly MST in unresected cases after CRT showed a little longer in GS-CRT: 12.4 M vs.9.7 M (P=0.196).

CONCLUSION: Compared to Gem-CRT, GS-CRT provides significant improvement of outcomes in CA-19- reduction rate, resection rate and histopathological response, although long-term benefit should be furthermore assessed.
**S058 NEOADJUVANT THERAPY WITH ANATOMICAL BORDERLINE PANCREATIC DUCTAL ADENOCARCINOMA. DOES IT MAKE DIFFERENCE?**

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**BACKGROUND:** The benefit of neoadjuvant therapy over a surgery-first approach in patients with borderline pancreatic ductal adenocarcinoma (PDAC) has not been well defined.

**Aim:** To compare postoperative outcomes of patients with borderline PDAC who underwent pancreatectomy after neoadjuvant treatment with those of patients who underwent upfront surgery.

**METHODS:** Between 2008 and 2014, 231 patients were identified as anatomical borderline PDAC. 117 of 231 (50.6%) patients received neoadjuvant therapy and 114 (49.4%) patients had a surgery-first approach. Univariate, multivariate and survival analyses were performed.

**RESULTS:** Compared to surgery first group, neoadjuvant group was associated with smaller tumor size in the pathological specimen (P<.001), lower incidence of metastatic lymph nodes (39% vs. 80%; P<.001), less perineural invasion (61% vs. 97%; P<.001), less micro-vascular invasion (32% vs. 68%; P<.001), less vascular resection rate (31% vs. 57%; P<.001) and a lower rate of positive resection margin (32% vs. 44%; P<.055). Univariate analysis identified nodal status, lymph node ratio and tumor size as predictors for survival. Multivariate analysis identified only lymph node ratio (P=.005) as independent predictor of patient survival. Postoperative mortality and morbidity rates were similar in the 2 groups. However, survival analysis starting from date of first dose of neoadjuvant therapy versus date of upfront surgery showed better median overall survival in favor of the neoadjuvant group (44 months vs. 20 months; P=.011).

**CONCLUSION:** Neoadjuvant treatment for borderline PDAC is associated with better pathological outcomes and overall survival. Lymph node ratio can provide significant prognostic information after pancreatectomy for patients with borderline PDAC.

**S059 SURVIVAL OUTCOMES OF PATIENTS WITH RESECTABLE PANCREATIC CANCER RECEIVING NEOADJUVANT THERAPY**

Kathleen K Christians, MD, Ben George, MD, Beth A Erickson, MD, Fabian M Johnston, MD, MHS, Douglas B Evans, MD, Susan Tsai, MD, MHS; Medical College of Wisconsin, Milwaukee, US

**BACKGROUND:** A surgery-first approach for resectable PC is associated with a median survival of 22-26 months for those whose tumors are successfully removed, but not all patients recover to receive adjuvant therapy. Neoadjuvant treatment sequencing insures the delivery of systemic therapy to all patients with resectable PC but remains controversial.

**METHODS:** We identified all resectable PC pts treated with neoadjuvant therapy from 2009-2013, we excluded those patients treated on clinical trials. Data regarding demographics, neoadjuvant treatment (NeoTx) history, surgical outcomes, pathology, and survival data were abstracted.
RESULTS: NeoTx was initiated in 69 pts; median age was 65 years (interquartile range [IQR]: 11), 48% were male, and median CA19-9 at diagnosis was 101 (IQR: 232). NeoTx consisted of chemotherapy alone (n = 10, 14%); chemoradiation (n= 53, 77%), or both (n = 6, 9%). Median CA19-9 after NeoTx was 37 (IQR: 72) corresponding to a median decline of 66%. Surgical resection was completed in 60 (87%) of the 69 pts. At restaging after NeoTx, 5 (7%) of 69 pts were not considered surgical candidates due to: metastatic disease (3), local progression (1), or inadequate performance status (1). At surgery, 4 (6%) of 64 patients had metastatic disease and were not resected. Of the 60 resected patients, complete pathologic response was observed in 2 (3%) pts, 40 (66%) pts had lymph node (LN) negative disease with a median of 22 (IQR: 10) LN examined. Among the 20 LN positive pts, the median number of positive LN was 2 (IQR 3). R0 resections were achieved in 58 (97%) pts. Additional postoperative adjuvant therapy was administered to 35 (58%) of the 60 pts who completed all NeoTx and resection as compared to 11 months for the 9 pts who were not resected (log rank p < 0.001). Median survival among LN negative versus LN positive pts was 46 mo and 26 mo (p = 0.14), respectively.

CONCLUSIONS: NeoTx for resectable PC is associated with a longer median overall survival as compared to a surgery-first approach. A small proportion of patients will not complete all NeoTx due to metastatic disease progression.

S060 A TALE OF TWO CITIES: RECONSIDERING ADJUVANT RADIATION IN PANCREATIC CANCER CARE

INTRODUCTION/BACKGROUND: Pancreatic ductal adenocarcinoma has a dismal prognosis. Although pancreatic cancer care has become more concentrated at high-volume centres and increasingly standardized there are still considerable differences in care between centres. The role of adjuvant radiation in the treatment of resectable pancreatic cancer is controversial. It is the standard of care in most high-volume United States (US) centres, but is not generally utilized in Europe (EU). This study compares treatment characteristics and survival outcomes between two representative high-volume pancreatic cancer centres in the US and EU.

METHODS: Medical records of patients with pancreatic ductal adenocarcinoma (PDAC) who underwent surgical resection from January 2003 through December 2013 at tertiary centres in Boston (US) and Leiden (EU) were reviewed for clinical pathological characteristics, operative techniques, postoperative outcomes, adjuvant treatment and overall survival. Patient and treatment characteristics were compared by chi-square. Survival curves for both treatment groups were compared using the log-rank test. Multivariate Cox regression was performed to identify independent predictors for overall survival in resected PDAC patients.

RESULTS: 410 total patients were identified, 233 (54%) and 187 (46%) were treated in the US and EU respectively. The median age was 66 years and 53% were female in the total population. The majority of patients had stage II disease at presentation (83%), which was similar (p = 0.842) in both treatment groups. Negative resection
margins were comparable (57% US vs. 66% EU; p = 0.102). 82% of the patients in this US population proceeded to adjuvant treatment after surgery compared to 51% of the patients in EU (p < 0.001). 65% of the US patients received adjuvant radiation therapy while EU patients were solely treated with adjuvant chemotherapy. The perioperative morbidity was comparable (1.4% US vs. 2.7% EU; p = 0.345), but unadjusted median overall survival was significantly (p = 0.011) lower in the EU (16 months vs. 22 months). However, after adjustment for factors including adjuvant treatment, centre location was no longer predictive for overall survival. Predictive factors for overall survival were resection margin status (p = 0.019), pT stage (p = 0.012), adjuvant chemotherapy (p = 0.039) and adjuvant radiation (p = 0.030).

DISCUSSION/CONCLUSION: The academic high-volume pancreatic cancer centres in the US and EU investigated in this study offer comparable standards of pancreatic cancer care, with the notable lack of adjuvant radiation treatment in the EU population. This study, while nonrandomized, suggest that adjuvant radiation may be associated with a survival benefit for resectable pancreatic cancer patients. Adjuvant treatment, including consideration of radiation therapy, should be of paramount importance in the care of early-stage pancreatic adenocarcinoma.

**S061 TIMING OF STAGING DIAGNOSTIC LAPAROSCOPY PRIOR TO NEOADJUVANT THERAPY IN PATIENTS STRATIFIED ACCORDING TO AHPBA/SSO/SSAT CONSENSUS DEFINITIONS OF RESECTABILITY** Raphael J Louie, MD, MPH, Shirley Liu, BS, David Caba Molina, MD, MPH, Jordan Judkins, MD, Bassem I Zaki, MD, J. Marc Pipas, MD, Kathryn C Hourdequin, MD, Gregory H Ripple, MD, Gregory J Tsongalis, PhD, Michael J Tsapakos, MD, Jeannine B Mills, MS, RD, CSO, LD, Mikhail Lisovsky, MD, PhD, Arief A Suriawinata, MD, PhD, Christina V Angeles, MD, Thomas A Colacchio, MD, Richard J Barth Jr., MD, Stuart R Gordon, MD, Timothy B Gardner, Kerrington D Smith, MD; Dartmouth Hitchcock Medical Center, Lebanon, US

BACKGROUND: In 2009, the AHPBA/SSO/SSAT published consensus definitions of resectability for resectable, borderline resectable and locally advanced pancreatic cancer. Diagnostic laparoscopy prior to surgery detects radiographic-occult metastatic disease in a subset of patients; however the timing of diagnostic laparoscopy for patients being considered for neoadjuvant therapy is not standardized. All patients presenting to our institution with biopsy proven pancreatic ductal adenocarcinoma (PDAC) undergo radiographic staging followed by diagnostic laparoscopy prior to consideration for neoadjuvant therapy. We aim to determine the utility of staging laparoscopy for detecting CT-occult metastatic disease in patients stratified according to modern consensus definitions of resectability.

METHODS: We conducted a retrospective cohort study to evaluate patients who presented to our Pancreas Tumor Interdisciplinary Clinic with biopsy proven PDAC from January 1, 2004 - December 31, 2013. We reviewed CT images at diagnosis and stratified patients according to the 2009 consensus statement definitions of resectability. Statistics were calculated with Fisher’s exact test.

RESULTS: We identified 565 patients over a 10-year period with biopsy proven PDAC. Staging CT images at diagnosis were retrospectively reviewed and patients were stratified according to consensus resectability definitions: 130 resectable (R), 180 borderline resectable (BR), and 70 locally advanced (LA). The 125 patients with
metastatic disease and 60 patients without imaging available to review were excluded. 237 patients with localized tumors (85 R, 120 BR, 32 LA) underwent diagnostic laparoscopy prior to neoadjuvant therapy with gemcitabine and concurrent IMRT. We found metastatic disease in 5.9% of the R group, 13.3% in the BR group and 21.9% in the LA group (R v. BR p = 0.103, R v. LA p = 0.018). 11.3% of R patients with negative staging laparoscopy had metastatic progression during the neoadjuvant setting while 20.2% of BR patients and 32.0% of LA patients progressed during the same treatment interval (R v. BR p = 0.112, R v. LA p = 0.026). The rate of aborted exploratory laparotomy due metastatic disease at the time of surgery increased with resectability stage: 3.5% in the R group, 17.4% in the BR group and 30% in the LA group (R v. BR p = 0.013, R v. LA p = 0.021).

SUMMARY: Diagnostic laparoscopy performed at the time of diagnosis identifies CT-occult metastatic disease in 5.9% of resectable, 13.3% of borderline resectable and 21.9% of locally advanced patients when stratified according to modern definitions of resectability. Diagnostic laparoscopy improves the detection of metastatic disease prior to initiating therapy. However, despite neoadjuvant therapy, a significant portion of BR and LA patients are found to have metastatic disease at the time of surgical exploration. This suggests that BR and LA patients are biologically distinct, supporting the need to consider repeat diagnostic laparoscopy prior to resection with curative intent.
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<tr>
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<th>Year</th>
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<tbody>
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# Past & Future Meetings

## Save the Date

### 50th Annual Pancreas Club Meeting

May 20-21, 2016
San Diego, CA

## Date & Location

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<th>Year</th>
<th>Location</th>
<th>Host</th>
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<td>2014</td>
<td>Westin Lombard, Chicago, IL</td>
<td>Gerard Aranha</td>
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<td>2013</td>
<td>WDW Swan &amp; Dolphin Hotel, Orlando, FL</td>
<td>Pablo Arnoletti</td>
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<td>2012</td>
<td>Hyatt Mission Bay, San Diego, CA</td>
<td>Mark Talamini</td>
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<td>Chicago, IL</td>
<td>Gerard Aranha, Mark Talamonti, David Bentrem</td>
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<td>New Orleans, LA</td>
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<td>Gerard Aranha, Mark Talamonti, David Bentrem</td>
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<td>2008</td>
<td>San Diego, CA</td>
<td>Mark Talamini, Mike Bouvet</td>
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<td>2007</td>
<td>Children’s Medical Center, Washington, DC</td>
<td>Dana Anderson</td>
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<td>2006</td>
<td>Los Angeles, CA</td>
<td>Howard A. Reber</td>
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<td>2005</td>
<td>Chicago, IL</td>
<td>Gerard V. Aranha, Richard Bell</td>
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<td>New Orleans, LA</td>
<td>Alton Ochsner</td>
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<td>2003</td>
<td>Orlando, FL</td>
<td>Michael Murr</td>
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<td>2002</td>
<td>San Francisco, CA</td>
<td>Kimberly Kirkwood</td>
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<td>2001</td>
<td>Hilton Atlanta, Atlanta, GA</td>
<td>Aaron Fink</td>
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<td>2000</td>
<td>University of California, SD, San Diego, CA</td>
<td>A.R. Moosa</td>
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<tr>
<td>1999</td>
<td>Peabody, Orlando, FL</td>
<td>Michael M. Murr, James G. Norman</td>
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<td>Tulane University, New Orleans, LA</td>
<td>Elmo Cerise, J. Patrick O’Leary</td>
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<tr>
<td>Year</td>
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<td>1990</td>
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<td>Bradley Aust</td>
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<td>1989</td>
<td>Washington Hilton</td>
<td>Gregory Bulkeley, Frances Milligan, John Cameron</td>
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<td>Charles Frey</td>
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<td>1976</td>
<td>Doral on the Ocean, Miami, FL</td>
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50th ANNUAL MEETING OF THE PANCREAS CLUB

May 20-21, 2016 in San Diego, CA

SAVE THE DATE