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Proceedings of the 47th annual Pancreas Club Meeting

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The 47th annual Pancreas Club meeting was held May 17and 18, 2013 at the Walt Disney World Swan and Dolphin Hotel, Lake Buena Vista, Florida. Two hundred fifty eight attendees comprised a remarkably international congress, with 92 international pancreatologists contributing to the meeting. Two hundred eleven abstracts were submitted, from which 54 oral presentations and 140 posters were presented. The Table documents oral abstract titles with institutional affiliation. Full abstracts for all oral presentations and posters are available at the pancreas club website, www.pancreasclub.com/final-program/. Representative abstracts from each of the 5 sessions are summarized below.

Scientific Session I: Cancer Clinical/ Readmissions/ Complications/ Outcomes

Several papers in session I focused on the timely and important issue of readmissions after pancreatic surgery. The University of Wisconsin group queried the SEER database to differentiate early (<30 day) and late (>90 day) readmissions (Abstract 1). Among 2,469 Medicare patients who had pancreatic cancer resection, 21% were readmitted to the hospital within 30 days of discharge, and another 13% were readmitted between 30-90 days from discharge. The most common reason for early readmission was infection, and the most common reason for delayed readmission was dehydration. Importantly, mortality after delayed readmission was substantially higher (27%) than after early readmission (7%). These investigators concluded that early and late readmissions are discrete clinical entities, each of which has specific targets for process improvement.

Scientific Session II: Cancer Clinical/ Translational Studies/ NET/ IPMN

Two papers in this session addressed pancreatic neuroendocrine tumors (NET); the question of how to manage small NET remains controversial. The UCLA group reviewed 116 NET patients treated at their institution over the 23-year period spanning 1989-2012 (Abstract 15). Nearly 1/3 (32%) of resected

patients had tumors < 2cm; among these patients 3% had lymphatic metastases. The University of South Florida group presented 150 non-functional NET patients treated between 1999-2012. Thirty-seven (25%) of these patients had tumors < 2cm; among this group with small NET, 5 (20%) had lymph node involvement. A major challenge in this patient population lies in understanding the natural history of NET as the true denominator (i.e. patients with small NET who are simply followed without intervention) has not been quantitated.

Scientific Session III: Basic Science Studies in Pancreas Cancer

University of Florida investigators presented their work examining mechanisms by which tumor associated stroma cells support pancreatic cancer progression and chemoresistance (Abstract 18). Tumor associated fibroblasts isolated from resected pancreatic cancer specimens were co-cultured with pancreatic cancer cells *in vitro* and the resultant cancer cells then used in xenograft murine models. Pancreatic cancer cells co-cultured with tumor-associated fibroblasts were biologically more active and significantly more resistant to gemcitabine when compared to cancer cells isolated and cultured in absence of tumor- associated stroma. These effects were associated with increased activity of the c-Met/ID-1 signaling pathway and enhanced by nicotine administration. This paper generated significant audience discussion regarding potential therapeutics targeting the interaction between stromal fibroblasts and cancer cells.

Scientific Session IV: Surgical Techniques:

The highlight of session IV was Dr. John Cameron's report of 2000 consecutive pancreatoduodenectomies (PD) performed over his 44-year career (Abstract 26). He compared outcomes and indications for his first 1000 PD to those for the second 1000 PD, noting an improved length of stay in the second cohort (11 days overall). He also noted an increased proportion of resections in the second cohort performed for benign conditions such as IPMN (from 1% to 8%). Delayed gastric emptying was the most common complication (25%

overall). The overall fistula rate was similar in both cohorts (18%). Five-year survival for pancreatic cancer patients who were lymph node negative and had margin negative resections was 40%, whereas 5-year survival of node positive patients was 16%.

Several of the numerous audience questions were directed toward understanding the technical changes that improved the operation over time. Others asked what improvements could be made going forward. Dr. Cameron's response was that improved methods of effective hemostasis and pancreatic reconstruction made the difference. He also stated his belief that further technical modifications in the operation will not make a substantial difference in long-term clinical outcomes of pancreatic cancer patients. These advances will only come with better adjuvant therapy and a tumor marker that will allow us to detect the tumors early.

The **How I Do It Session** this year focused on the surgical management of chronic pancreatitis. Dr. William Nealon (Vanderbilt University) reviewed outcomes of the surgical gold standard - resection, drainage, and hybrid procedures. Drs. John Christein (University of Alabama) and Gregory Beilman (University of Minnesota) reviewed the indications for total pancreatectomy and autologous islet transplantation (TP-AIT), reporting outcomes from their respective institutions. The gold standard surgical treatment of chronic pancreatitis patients – drainage, resection, and hybrid procedures – has over several decades documented good long term results for appropriately selected patients. Drs. Christein and Beilman both stressed the fact that substantially fewer data support the efficacy of TP-AIT, and that this modality should be used only in the context of highly select patients followed by a multidisciplinary group. The importance of experience islet isolation was stressed.

Scientific Session V: Pancreatitis

In this session Dr. William Nealon presented a series of 90 patients managed with short segement lateral pancreaticojejunostomy (Abstract 33). The

operative indication was a mid gland stricture resulting from either necrosis/necrosectomy or post pancreaticoduodenectomy anastomotic stricture. The fact that these patients were uniformly seen by multiple physicians prior to undergoing definitive surgical intervention highlights the significant lack of awareness/understanding of the clinical entity in the medical community at large. He also noted that 96% of patients had complete symptomatic relief following the procedure. This paper generated significant discussion regarding preoperative workup and potential alternatives to managing this obstructed pancreatic segement including resection or pancreaticojejunostomy revision.

Scientific Session VI: Cancer Clinical/Timing of Therapy/Preoperative Evaluation/Lymph Node Status

Five papers in this session presented neoadjuvant approaches to pancreatic cancer. Most notably, the UCLA group presented a series of 49 patients initially deemed locally advanced unresectable by imaging criteria who were treated with chemoradiotherapy for 6+ months and then explored operatively (Abstract 45). Among these patients, 37 of 49 were lymph node negative and 85% received R0 resection. The overall median survival was 40 months. Unfortunately, the true denominator, i.e. the number of individuals who were initially deemed unresectable and never returned to resection is unknown.

Also notable, the MD Anderson group presented a series of resectable pancreatic cancer patients comparing patients having surgery first (n=58) to neoadjuvant multimodality therapy prior to surgery (n=112) (Abstract 47). Patients treated with multimodality therapy (MMT) prior to surgery were significantly more likely to complete chemoradiotherapy than those who received postoperative therapy (82% vs. 59%). Not surprisingly, patients completing MMT enjoyed an overall survival advantage compared to those unable to complete MMT (36 vs. 11 months). Discussion following these papers emphasized the importance of using consensus standards for determining resectability based on axial imaging prior to treatment and on using established pathologic methods for determining margin and lymph node status in resected specimens.

Awards:

Three awards were presented: The PanCan award to Dr. Ching-Wei Tzeng from MD Anderson Cancer Center for the paper *Treatment sequencing of resectable pancreatic cancer: influence of early metastases and surgical complications on multimodality therapy completion rates*; The Kenneth K. Warren award to Dr. Jason Castellanos of Vanderbilt University for the paper *STAT3 inhibition attenuates chemoresistance and enhances drug delivery in pancreatic cancer*; and the John M. Howard Award to Dr. Eugene P. Ceppa of Indiana University for the paper *Reducing readmissions following pancreatectomy: coordination of the care continuum*.

The meeting concluded with an invitation to attend the 48th Pancreas Club meeting May 2-3, 2014 in Chicago, IL.

Table: Oral presentations of the 47th annual Pancreas Club

Abstract #	Title	Institution
Scientific Session I: Cancer Clinical/ Readmissions/ Complications/ Outcomes		
1	Comparing Early and Delayed Readmission After Surgery for Pancreas Cancer: A SEER-Medicare Study	University of Wisconsin
2	Reducing Readmissions Following Pancreatectomy: Coordination of the Care Continuum	Indiana University
3	Readmissions after pancreas surgery: complex and costly	BIDMC/University of Massachusetts
4	Limitations of NSQIP in reporting complications for patients undergoing pancreactectomy: underscoring the need for a pancreas-specific module	Columbia University
5	Trends in the Surgical Treatment of Pancreatic Adenocarcinoma	Case Western Reserve University
6	Ninety-day mortality rate after resection of cancer of the pancreas is nearly double thirty-day mortality: analysis of 20,000 pancreatectomies in the national cancer data (NCDB)	Brigham and Women's Hospital
7	Patterns of failure following Whipple procedure for resectable pancreatic ductal adenocarcinoma	Johns Hopkins
8	Perioperative blood transfusion reduces survival in	Central Pancreas

	patients with pancreatic adenocarcinoma: a multi-institutional study of 698 patients	Consortium
9	Comparing the impact of complications after major pancreatectomies using the postoperative morbidity index	University of Pennsylvania

Scientific Session II: Cancer Clinical/ Translational Studies/ NET/ IPMN

10	Coexpression of MUC16 and mesothelin is related to the invasion process and survival for pancreatic ductal adenocarcinoma	Wakayama Medical University Japan
11	DCK is a prognostic marker and correlates with 5-fluorouracil response and HUR status in pancreatic cancer: analysis from the RTOG 9704 trial	Thomas Jefferson Unversity/Johns Hopkins
12	Prognostic and biological role of MiR-101, MiR-155 and MiR-21 in Pancreatic Intraductal Papillary Mucinous Neoplasms	University of Pisa, Italy
13	Does Preoperative Imaging Accurately Predict Main Duct Involvement in Intraductal Papillary Mucinous Neoplasm?	Indiana University
14	Conservative management of branch duct intraductal papillary mucinous neoplasm of the pancreas with worrisome features	Japan Date Red Cross General Hospital
15	Small non-functional pancreatic neuroendocrine tumors are associated with a low incidence of nodal metastasis and an excellent overall survival	University of California Los Angeles
16	Predictors of Lymph Node Metastases and Impact on Survival in Resected Pancreatic Neuroendocrine Tumors, A Single Center Experience	University of South Florida Moffitt Cancer Center

Scientific Session III: Basic Science Studies in Pancreas Cancer

17	STAT3 Inhibition Attenuates Chemoresistance And Enhances Drug Delivery In Pancreatic Cancer	Vanderbilt University
18	Tumor associated fibroblasts promote pancreatic tumor progression and chemoresistance through a potential C-MET dependent-ID1 signaling axis	University of Florida
19	Biophysical markers derived from standard pre-treatment imaging quantitatively describe gemcitabine delivery and chemoradiation response in human pancreatic adenocarcinoma	MD Anderson Cancer Center
20	Implications for pancreatic cancer cell resistance and survival: critical cancer-related genes are selectively regulated by HUR when exposed to chemotherapeutics and nutrient deprivation	Thomas Jefferson University
21	CXCR2 inhibition provides protection against metastases in pancreatic ductal adenocarcinoma	Beatson Institute for Cancer Research, Glasgow, UK

22	Multi-targeted approaches in the treatment of Pancreatic Ductal Adenocarcinoma (PDAC)	University of Alabama Birmingham
23	Development of MUC1- driven diptheria toxin-A nanotherapy for the selective killing of aggressive pancreatic cancer cells	Thomas Jefferson University
24	Inhibition of centrosome duplication as a therapeutic approach to pancreatic cancer with potentially few side effects	NorthShore University HealthSystem/University of Chicago
25	PINCH Expression in Pancreatic Neuroendocrine Tumors	University of Utah

Scientific Session IV: Surgical Techniques

26	2000 Consecutive Pancreaticoduodenectomies	Johns Hopkins
27	A Multi-institutional External Validation of the Fistula Risk Score for Pancreaticoduodenectomy	University of Pennsylvania, et al
28	Robotic Assisted Major Pancreatic Resections	University of Pittsburgh
29	A standardized radiographic assessment of the tumor-vein interface predicts the need for venous resection and the presence of histologic venous invasion in borderline resectable pancreatic cancer	MD Anderson Cancer Center
30	Margin Status Impacts Survival After Pancreaticoduodenectomy; But Negative Margins Should Not Be Chased	Florida Hospital Tampa
31	A single center experience of 129 pancreatic enucleations: Indications, short and long-term outcome	Hopital Beaujon Clichy, France

Scientific Session V: Pancreatitis

32	Aging is related to increased intestinal damage and bacterial translocation in acute pancreatitis in rats	University of Sao Paulo, Brazil
33	Pancretico-jejunostomy limited to the body and tail of the pancreas; a procedure performed with growing frequency as a result of two emerging patient populations	Vanderbilt University
34	Percutaneous drainage of pancreatic necrosis-beyond the PANTER trial	St. Luke's Health System Boise ID
35	Evolving treatment strategies in the endoscopic management of walled-off pancreatic necrosis (WOPN)	Florida Hospital, Orlando, FL
36	Salvage dual modality drainage for persistent walled off pancreatic necrosis eliminates external pancreatic fistulae but does not reduce length of hospitalization nor use of radiologic resources	Virginia Mason Medical Center
37	Does Acute Pancreatitis Change the Natural History of Intraductal Papillary Mucinous Neoplasm (IPMN)?	Indiana University, Yonsei University Seoul, Korea
38	Does Weight Affect Outcomes Following Total Pancreatectomy with Islet Autotransplantation?	Medical University of South Carolina

39	Multivariable logistic regression analysis of alcohol consumption, cigarette smoking and pancreas divisum in the risk of recurrent acute and chronic pancreatitis	Vita-Salute San Raffaele University, Milan
40	Does resident experience affect outcomes in complex abdominal surgery?	Thomas Jefferson University

Scientific Session VI: Cancer Clinical/Timing of Therapy/Preoperative Evaluation/Lymph Node Status

41	Positron emission tomography (PET) has limited utility in preoperative staging of pancreatic adenocarcinoma	Columbia University
42	The value of (18) FDG-PET/CT in patients with resectable pancreatic cancer: a prospective study	Ospedale Sacro Cuore Negrar, Italy
43	A standardized reporting system for EUS/FNA cytopathology of solid pancreatic masses	Campus Bio-Medico University of Rome, Italy
44	A low lymph node ratio is associated with improved survival, decreased recurrence and postoperative chemotherapy benefit after neoadjuvant chemoradiation for pancreatic ductal adenocarcinoma	MD Anderson Cancer Center
45	Locally advanced pancreatic cancer: prolonged preoperative treatment is associated with lymph node negativity and excellent overall survival	University of California Los Angeles
46	Frequency and intensity of postoperative surveillance after curative treatment of pancreatic cancer: a cost-effectiveness analysis	MD Anderson Cancer Center
47	Treatment sequencing for resectable pancreatic cancer: influence of early metastases and surgical complications on multimodality therapy completion rates and survival	MD Anderson Cancer Center
48	A comparative analysis of plastic versus metal endoscopic biliary stents in borderline resectable pancreatic cancer patients undergoing extended neoadjuvant chemotherapy	Virginia Mason Medical Center
49	Extended Neoadjuvant Chemotherapy For Locally Advanced, Resectable Pancreatic Cancer Demonstrates Promising Postoperative Outcomes and Survival	Virginia Mason Medical Center
50	Gemcitabine-based chemoradiotherapy followed by surgery for resectable, borderline resectable and locally unresectable pancreatic adenocarcinoma	Mie University School of Medicine Japan
51	Resection of locally advanced pancreatic cancer after neoadjuvant chemotherapy with modified FOLFIRINOX: a prospective phase II study	University of Pisa, Italy
52	Impact of margin clearance on survival after pancreaticoduodenectomy for pancreatic ductal adenocarcinoma	Applied Life Sciences Institute of Biomedical Japan