PANCREATIC CANCER NEWS & UPDATES – MAY 2011

BIOLOGY OF CANCER

STAT3 plays a critical role in KRAS-induced pancreatic tumorigenesis

http://www.ncbi.nlm.nih.gov/pubmed/21586612

Nabeel Bardeesy, PhD (2008 Randy Pausch, PhD – Pancreatic Cancer Action Network – AACR Career Development Award) is the senior author of this *Cancer Research* article. Previous data have suggested that STAT3 is not necessary for the normal development of the pancreas, but is constitutively active in pancreatic ductal adenocarcinoma. Dr. Bardeesy and colleagues performed a large-scale screening of cancer cell lines for response to JAK2 inhibition, and found an over 30-fold range of responsiveness in pancreatic cancer cell lines. Conditional inactivation of STAT3 in K-Ras driven pancreatic cancer mouse models revealed that a dependence on STAT3 for early precancerous lesions (PanINs and ADM). Overall, these data suggest that STAT3 may be an attractive target to treat pancreatic cancer.

PDA mice lacking Mucin 1 have a profound defect in tumor growth and metastasis

http://www.ncbi.nlm.nih.gov/pubmed/21558393

This *Cancer Research* paper out of the lab of Pinku Mukherjee, PhD (2007 Pancreatic Cancer Action Network Pilot Grant) describes three pancreatic cancer mouse models: KC mice that are known to develop pancreatic cancer, KCKO mice that have a knockout of the gene mucin 1 (MUC1), and KCM mice that have expression of MUC1. Compared to KCM or KC mice, KCKO mice develop pancreatic cancer and progress to metastatic disease at a significantly slower rate. Additionally, pancreatic cancer cells cultured from the KCKO mice have poorer proliferation and invasion rates *in vitro*. The data presented here suggest that MUC1 is necessary for MAPK activity and oncogenic signaling in pancreatic cancer.

Endogenous Myc maintains the tumor microenvironment

http://www.ncbi.nlm.nih.gov/pubmed/21478273

A team of UCSF researchers, including Douglas Hanahan, PhD (2007 Pancreatic Cancer Action Network Pilot Grant), explored the effects of inhibiting endogenous Myc in an SV40-driven pancreatic islet tumor model. The data suggest that blocking Myc leads to tumor regression, beginning with collapse of the tumor microenvironment and involution of tumor vasculature.

N-myc downstream regulated gene-1 expression correlates with reduced pancreatic cancer growth

http://www.ncbi.nlm.nih.gov/pubmed/21236457

David Dawson, MD, PhD (2008 Seena Magowitz – Pancreatic Cancer Action Network – AACR Career Development Award) is an author on this *Surgery* publication. N-myc downstream regulated gene-1 (NDRG1) has been postulated to serve as a tumor suppressor in cancer, including pancreatic cancer. Here, the authors evaluate NDRG1 expression in pancreatic cancer patient samples and cell lines. Then,

NDRG1 was over-expressed in a pancreatic cancer cell line, leading to reduced growth, inability to grow under anchorage-independent conditions, and increased apoptosis.

Apigenin down-regulates the hypoxia response genes: HIF-1α, GLUT-1, and VEGF in pancreatic cancer
http://www.ncbi.nlm.nih.gov/pubmed/21227456
Northwestern University scientists, including Paul Grippo, PhD (2007 Nancy Daly Riordan – Pancreatic Cancer Action Network – AACR Career Development Award), investigated the relationship between the flavonoid apigenin and hypoxia responsive genes in pancreatic cancer cells. The authors found that apigenin inhibits HIF-1α, GLUT-1, and VEGF mRNA and protein expression in pancreatic cancer cells in both normoxic and hypoxic conditions.

Myeloid-derived suppressor cells: general characteristics and relevance to clinical management
http://www.ncbi.nlm.nih.gov/pubmed/21599634
William Hawkins, MD (2005 Skip Viragh – Pancreatic Cancer Action Network – AACR Career Development Award) contributed to this review of the role of myeloid-derived suppressor cells (MDSC) in pancreatic cancer. Two main subsets of MDSC, monocytic and granulocytic, have been identified in cancer cells, and both lead to immune suppression.

Oncogenic Ras/Src cooperativity in pancreatic neoplasia
http://www.ncbi.nlm.nih.gov/pubmed/21242978
Scientists at UC San Diego published this article in *Oncogene*, discussing the cooperativity between Ras and Src in the development of pancreatic cancer. In the presence of mutated Kras, activation of Src by deletion of C-terminal Src kinase led to the development of invasive pancreatic carcinoma. Further, inhibition of Src led to regression of Kras/Src-driven tumors, suggesting the potential for Src-directed therapies against pancreatic cancer.

Pancreatic stellate cells radioprotect pancreatic cancer cells through {beta}1-integrin signaling
http://www.ncbi.nlm.nih.gov/pubmed/21558392
This *Cancer Research* paper looks at pancreatic stellate cells, a central component of the desmoplastic reaction surrounding pancreatic tumors, and how they contribute to poor therapeutic response of pancreatic ductal adenocarcinoma. The authors' data suggest that pancreatic stellate cells promote radioprotection of the pancreatic cancer cells, in a manner dependent on beta-1 integrin signaling.

High-throughput RNAi screening identifies role for TNK1 in growth & survival of pancreatic cancer cells
http://www.ncbi.nlm.nih.gov/pubmed/21536687
T-Gen scientists performed high-throughput RNAi experiments to knock down the expression of 572 kinases in pancreatic cancer cell lines. One kinase identified as a hit from this screen was tyrosine kinase non-receptor 1 (TNK1), a kinase previously identified as having tumor suppressor-like properties in embryonic stem cells. Silencing of TNK1 expression led to decreased proliferation and increased apoptosis of the pancreatic cancer cells, suggesting a role in growth and survival.

A functional nuclear EGFR, SRC and Stat3 heteromeric complex in pancreatic cancer cells
http://www.ncbi.nlm.nih.gov/pubmed/21573184
The data presented in this *PLoS One* article suggest that a heterotrimeric complex of EGFR, Src, and Stat3 serve to activate transcription of c-Myc. Knockdown of EGFR or Src via siRNA, or chemical inhibition of Stat3, does not significantly affect c-Myc expression, suggesting a mechanism whereby previous attempts at therapeutically inhibiting these pathways have been unsuccessful. However, dual inhibition of any combination of two proteins caused a strong decrease in c-Myc expression.

Clinical relevance of epidermal growth factor receptor (EGFR) alterations in human pancreatic tumors
http://www.ncbi.nlm.nih.gov/pubmed/21573507
The status of EGFR was assessed by PCR-sequencing, immunohistochemistry, and FISH probes. The authors found that EGFR mutations are rare in pancreatic cancer, and not associated with changes in prognosis or treatment response.

KL1 internal repeat mediates klotho tumor suppressor activities and inhibits bFGF and IGF-1 signaling
http://www.ncbi.nlm.nih.gov/pubmed/21571866
Abramovitz and colleagues looked at the tumor suppressor klotho's expression in pancreatic cancer, and found that its expression is down-regulated. Forced expression of klotho or soluble klotho reduced growth of pancreatic cancer cell lines and xenograft models, possibly by inhibiting the bFGF and IGF-1 signaling pathways.

IGF1-R signals through the RON receptor to mediate pancreatic cancer cell migration
http://www.ncbi.nlm.nih.gov/pubmed/21565828
The RON receptor tyrosine kinase was confirmed to interact with IGF-1R in pancreatic cancer cells, and stimulation with IGF-1 ligand led to RON activation. RON signaling did not activate IGF-1R, suggesting a single-directional signaling relationship. Specifically, IGF-1-mediated RON activation led to increased ability of pancreatic cancer cells to migrate in a wound healing scratch assay. The authors hypothesize that signaling via RON may contribute to resistance of cancer cells to insulin and insulin-growth factor therapeutic inhibition.

Plasma proteome profiles associated with inflammation, angiogenesis, and cancer
http://www.ncbi.nlm.nih.gov/pubmed/21589862
This study out of the Hutchinson Cancer Center utilized a pancreatic cancer and a breast cancer mouse model to study expression of plasma proteins, and differentiate between changes that are cancer-related and those that are part of a nonspecific host response.

PCCR: Pancreatic Cancer Collaborative Registry
http://www.ncbi.nlm.nih.gov/pubmed/21552494
A multidisciplinary team at the Eppley Institute at University of Nebraska introduces the Pancreatic Cancer Collaborative Registry (PCCR). PCCR is a web-based system with the goal of facilitating rapid and uniform collection of critical information and biological samples to be used in developing diagnostic, prevention, and treatment strategies against pancreatic cancer. The PCCR is designed to encourage participation of any institution, regardless of size or location.

ETIOLOGY

Risk of malignant neoplasm of the pancreas in relation to diabetes: population-based study in Taiwan
http://www.ncbi.nlm.nih.gov/pubmed/21398527
This study received some media attention this month (e.g., article in Reuters). The authors conclude that middle-aged men and women (45-65 years of age) with diabetes showed a significantly increased risk of pancreatic cancer, compared with a control (non-diabetic) group.

Body mass index and obesity- and diabetes-associated genotypes and risk for pancreatic cancer
http://www.ncbi.nlm.nih.gov/pubmed/21357378
Researchers at MD Anderson investigated the hypothesis and obesity- and diabetes- related genes modify the risk of pancreatic cancer. They report that single nucleotide polymorphisms in PPARg and NR5A2 may reduce the risk for pancreatic cancer.

Family history of cancer and tobacco exposure in index cases of pancreatic ductal adenocarcinoma
http://www.ncbi.nlm.nih.gov/pubmed/21547248
This paper out of Newcastle University in the UK describes a case-control study of pancreatic cancer patients and healthy controls. Individuals were asked to answer questionnaires regarding family history of pancreatic cancer and smoking. Those with family history or a history of smoking had an increased risk of pancreatic cancer; smokers who also had a family history required less tobacco exposure to be at higher risk for pancreatic cancer.

Alcohol consumption and pancreatic cancer: a pooled analysis
http://www.ncbi.nlm.nih.gov/pubmed/21536662
This *Annals of Oncology* paper analyzes data from the International Pancreatic Cancer Case-Control Consortium to evaluate the relationship between alcohol consumption and pancreatic cancer incidence. Overall, this collaborative-pooled analysis provides additional evidence for a positive association between heavy alcohol consumption and the risk of pancreatic cancer.

Evidence that serum levels of sRAGE are inversely associated with pancreatic cancer risk
http://www.ncbi.nlm.nih.gov/pubmed/21540233
In this *Cancer Research* article, Jiao *et al* measure the serum levels of advanced glycation end products (AGEs), receptor for AGEs (RAGEs), and soluble RAGEs (sRAGEs) in pancreatic cancer patients. AGEs may occur due to smoking or consumption of overcooked meats, both considered risk factors for pancreatic cancer. AGEs exert their activity via RAGEs, whereas sRAGEs antagonize the pro-inflammatory activities of AGE/RAGEs. Here, the authors report that sRAGE levels are inversely associated with pancreatic cancer risk in Finnish male smokers.

Prevalence of BRCA1 & BRCA2 mutations in Ashkenazi Jewish families with breast & pancreatic cancer
http://www.ncbi.nlm.nih.gov/pubmed/21598239
This study out of Memorial Sloan-Kettering found that BRCA1 and BRCA2 mutations were observed with nearly equal prevalence in Ashkenazi Jewish families affected by both pancreatic and breast cancer.

PREVENTION

Rapamycin partially mimics the anticancer effects of calorie restriction in pancreatic cancer
http://www.ncbi.nlm.nih.gov/pubmed/21593197
A team of MD Anderson researchers explored whether administration of rapamycin might mimic the effects of caloric restriction in a mouse model, since both act to inhibit the mTor pathway. While both caloric restriction and rapamycin treatment led to decreased pancreatic tumor weight, the results were more significant upon caloric restriction. These results suggest that treatment with rapamycin partially mimics the effects of caloric restriction in preventing pancreatic cancer in a murine model.

Genetic reduction of IGF-1 mimics the anticancer effects of calorie restriction on COX-2
http://www.ncbi.nlm.nih.gov/pubmed/21593196
The same authors as the previous study also looked at reducing circulating levels of IGF-1 and the effects on COX-2-induced pancreatic cancer. Mice deficient in IGF-1 showed significantly decreased pancreatic tumor formation in the presence of activated COX-2. These data suggest that IGF-1 reduction is a key outcome of caloric restriction, and perhaps could be therapeutically targeted in the prevention or treatment of pancreatic cancer.

ACS Report: more collaboration needed to increase anti-cancer efforts
http://www.cancer.org/Cancer/news/News/acs-report-more-collaboration-needed-to-increase-anti-cancer-efforts
Coincident with its release of *Cancer Prevention & Early Detection Facts & Figures* , the American Cancer Society released this summary of findings. They conclude that social and economic status, as well as local laws, make a significant difference in whether a person adopts behaviors that might help prevent cancer, such as those involving tobacco use, body weight, eating and exercise habits, and screenings.

EARLY DETECTION, DIAGNOSIS, AND PROGNOSIS

Malignant intraductal papillary mucinous neoplasm: are we doing the right thing?
http://www.ncbi.nlm.nih.gov/pubmed/19765732
Jennifer Tseng, MD (2006 Samuel Stroum – Pancreatic Cancer Action Network – AACR Young Investigator Award) is the senior author on this *Journal of Surgical Research* paper. These University of Massachusetts researchers utilized the Surveillance Epidemiology and End Results (SEER) database to look at cases of intraductal papillary mucinous neoplasm (IPMN) from 1988-2003. After adjusting for other variables, the authors found that surgical resection was a significant independent predictor of survival.

Survival after resection for invasive IPMN and for pancreatic adenocarcinoma
http://www.ncbi.nlm.nih.gov/pubmed/21601488
This study out of the laboratory of C. Max Schmidt, MD, PhD (2003 Pancreatic Cancer Action Network – AACR Career Development Award) describes a multi-institutional comparison of post-surgical prognosis of intraductal papillary mucinous neoplasm (IPMN) versus pancreatic adenocarcinoma patients. When matched by stage, invasive IPMN was found to have superior survival after resection compared with pancreatic ductal adenocarcinoma.

Feasibility and yield of screening in relatives from familial pancreatic cancer families
http://www.ncbi.nlm.nih.gov/pubmed/21468009
See also editorial by Teri Brentnall: http://www.ncbi.nlm.nih.gov/pubmed/21540900
Published in the *American Journal of Gastroenterology*, this study out of Sloan-Kettering utilized their Familial Pancreatic Tumor Registry to select asymptomatic at-risk family members to screen. Participants were screened with magnetic resonance cholangiopancreaticogram (MRCP) followed by endoscopic ultrasound (EUS) with fine needle aspiration if indicated. Overall, their results suggest that screening high-risk individuals at-risk for pancreatic cancer has a significant diagnostic yield, particularly in relatives over 65 years of age. MRCP as an initial screening modality is safe and effective.

Editorial: pancreatic cancer surveillance: learning as we go
http://www.ncbi.nlm.nih.gov/pubmed/21540900
Editorial on previous entry: http://www.ncbi.nlm.nih.gov/pubmed/21468009
Teri Brentnall, MD (Scientific Advisory Board) wrote this editorial to discuss the results by Ludwig, *et al* discussed in the previous entry. Dr. Brentnall points out that sorting out the issues of early detection is not just important for the family who inherits pancreatic cancer, but it is also of value for patients who develop the sporadic form of the disease.

Protein alterations associated with pancreatic cancer and chronic pancreatitis found in human plasma
http://www.ncbi.nlm.nih.gov/pubmed/21443201
Research conducted in the laboratory of Teri Brentnall, MD (Scientific Advisory Board) was published in this *Journal of Proteome Research* paper. The researchers performed global quantitative proteomic profiling of plasma samples from individuals with pancreatic cancer, chronic pancreatitis, or healthy controls. To reduce some of the complexity of the plasma proteome, multidimensional fractionation at both the protein and peptide levels was used. Compared to CA19-9, a composite marker of TIMP1 and ICAM1 was significantly better at identifying pancreatic cancer.

Presence of PanIN in the pancreatic transection margin does not influence outcome
http://www.ncbi.nlm.nih.gov/pubmed/21537863
Authors on this *Annals of Surgical Oncology* publication include Joe Herman, MD (2008 Blum-Kovler – Pancreatic Cancer Action Network – AACR Career Development Award), Anirban Maitra, MD (2004 Pancreatic Cancer Action Network – AACR Career Development Award), and Ralph Hruban, MD (Scientific Advisory Board). This study evaluated the influence of pancreatic intraepithelial neoplasm (PanIN), present in the pancreatic transaction margin, on the outcome of patients with R0 resected pancreatic cancer. Data with significant clinical implications suggested that there were no significant survival differences between patients with or without PanIN lesions at the resection margin or among patients with PanIN-3 (carcinoma in situ) versus lower PanIN grades.

Loss of E-cadherin expression & outcome among patients with resectable pancreatic adenocarcinomas
http://www.ncbi.nlm.nih.gov/pubmed/21552209
This paper is the result of another collaborative Johns Hopkins effort; authors include Joe Herman, MD (2008 Blum-Kovler – Pancreatic Cancer Action Network – AACR Career Development Award), Chris Iacobuzio-Donahue (2007 Pancreatic Cancer Action Network Pilot Grant), and Ralph Hruban, MD (Scientific Advisory Board). Since pathological measurements cannot sufficiently predict which surgical

pancreatic cancer patients will have a better or worse outcome, these researchers examined E-cadherin expression via immunohistochemistry of resected tissue. Their findings suggest that either partial or complete loss of E-cadherin independently predicted for significantly worse prognoses.

Tissue biomarkers for prognosis in pancreatic ductal adenocarcinoma
http://www.ncbi.nlm.nih.gov/pubmed/21444679
This *Clinical Cancer Research* paper out of University of Glasgow describes a systematic review and meta-analysis of literature reporting immunohistochemistry-based biomarkers of pancreatic adenocarcinoma outcome. Promising markers that emerged for the prediction of overall survival included BAX, Bcl-2, survivin, Ki-67, COX-2, E-cadherin, and S100 calcium-binding proteins, in particular S100A2.

Role of proteomics to differentiate between benign and potentially malignant pancreatic cysts
http://www.ncbi.nlm.nih.gov/pubmed/21425880
Researchers out of Geneva University performed proteomic analyses of pancreatic cyst fluid to look for biomarkers to predict benign or malignant disease. Two proteins, oflactomedin-4 and mucin-18, were found to be differentially expressed. Further studies are needed to confirm these potential biomarkers and their usefulness in preoperative prediction of outcome of patients with pancreatic cysts.

Mayo Clinic reports new findings on noninvasive test for pancreatic cancer
http://www.mayoclinic.org/news2011-rst/6278.html
Pancreatic Cancer Action Network write-up:
http://www.pancan.org/section_research/scientific_strategy/topic_noninvasive_detection.php
John Kiesel, MD presented these data at Digestive Disease Week® 2011, suggesting that analyses of DNA detectable in stool samples may be able to identify pancreatic cancer. Gloria Petersen, PhD (Scientific Advisory Board) was also involved in this study. The two genes these authors focused on were methylated BMP3 and mutated K-Ras. These were found in 70 percent of stool samples of patients with pancreatic cancer, regardless of stage of disease or location of the tumor within the pancreas.

Negative predictive value of PET/CT in patients with a clinical suspicion of pancreatic cancer
http://www.ncbi.nlm.nih.gov/pubmed/21602734
Investigators at the Moffitt Cancer Center explored the abilities of positive emission tomography (PET) and computer tomography (CT) to rule out a pancreatic cancer diagnosis. In all, it was determine that the negative predictive value of PET/CT was 75%, suggesting that a clean PET/CT scan does not definitively exclude the possibility of the presence of a pancreatic tumor.

Models of light propagation in human tissue applied to cancer diagnostics
http://www.ncbi.nlm.nih.gov/pubmed/21381790
Media: http://optics.org/news/2/5/29
Researchers in the Biomedical Engineering and Applied Physics departments at the University of Michigan wrote this review of the application of optical methods to reflectance and endogenous fluorescence sensing for cancer diagnostics in human tissues.

TREATMENT

FOLFIRINOX versus gemcitabine for metastatic pancreatic cancer

http://www.ncbi.nlm.nih.gov/pubmed/21561347

Pancreatic Cancer Action Network statement:

http://www.pancan.org/section_research/scientific_strategy/topic_folfirinox_results.php

These data were first presented at the 2010 ASCO Annual Meeting, and are now published in the *New England Journal of Medicine*. This French clinical trial compared FOLFIRINOX, a cocktail of 5-FU, leucovorin, irinotecan, and oxaliplatin, to gemcitabine alone, in patients with metastatic pancreatic cancer. Encouragingly, patients treated with FOLFIRINOX showed an overall survival of 11.1 months, compared to 6.8 months in the gemcitabine arm. However, FOLFIRINOX treatment is also associated with significant toxicity, and only patients with strong performance statuses should be considered for this treatment regimen.

FDA approves new treatments for pancreatic cancer neuroendocrine tumors

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm254350.htm

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm256237.htm

Pancreatic Cancer Action Network statements:

http://www.pancan.org/section_research/scientific_strategy/topic_novartis_drug_approved.php

http://www.pancan.org/section_research/scientific_strategy/topic_sutent_fda_approved.php

After the ODAC recommended the approval of both the Novartis compound Afinitor® and the Pfizer compound Sutent® for the treatment of advanced pancreatic neuroendocrine tumors in April 2011, the FDA granted approval to Afinitor® on May 6th and Sutent® on May 20th.

MK-1775, a potent Wee1 inhibitor, synergizes with gemcitabine to achieve tumor regressions

http://www.ncbi.nlm.nih.gov/pubmed/21389100

Anirban Maitra, MD (2004 Pancreatic Cancer Action Network – AACR Career Development Award) contributed to this *Clinical Cancer Research* article. MK-1775, an inhibitor of Wee1, was tested alone and in combination with gemcitabine in pancreatic cancer xenografts. MK-1775 monotherapy did not lead to tumor regressions. However, the combination of gemcitabine with MK-1775 produced robust antitumor activity and enhanced tumor regression response compared to gemcitabine treatment alone, selectively in p53-deficient tumors.

Optimizing the administration of fixed-dose rate gemcitabine plus capecitabine

http://www.ncbi.nlm.nih.gov/pubmed/21552099

Andrew Ko, MD (2003 Pancreatic Cancer Action Network – ASCO Career Development Award) is this article's first author, and Margaret Tempero, MD (Scientific Advisory Board) is the final author. Published in the *American Journal of Clinical Oncology*, this report describes the dosing, schedule, and administration of fixed-dose rate gemcitabine and capecitabine to advanced pancreatic and biliary carcinoma patients. The authors conclude that fixed dose rate gemcitabine plus capecitabine is effective and has a tolerable toxicity profile, suggesting that this regimen may be useful as front-line therapy for patients with advanced pancreatobiliary cancers.

Potential targets for pancreatic cancer immunotherapeutics
http://www.ncbi.nlm.nih.gov/pubmed/21463193
http://www.medscape.com/viewarticle/742449?src=mp&spon=7
William Hawkins, MD (2005 Skip Viragh – Pancreatic Cancer Action Network – AACR Career Development Award) contributed to this *Immunology* paper, featured on Medscape, that addresses ideas of how to increase the effectiveness of vaccines as treatment for pancreatic cancer.

Targeting mutated K-ras in pancreatic adenocarcinoma using an adjuvant vaccine
http://www.ncbi.nlm.nih.gov/pubmed/20686403
The senior author of this study is Eileen O'Reilly, MD (Medical Advisory Board). Dr. O'Reilly and colleagues at Memorial Sloan-Kettering Cancer Center explored the safety and efficacy of treating resected pancreatic cancer patients with a vaccine targeting their tumor-specific K-ras mutation. While the vaccine was shown to have a tolerable safety profile, the immunogenicity was limited and the efficacy was unclear. Therefore, future attempts at a similar treatment should use more immunogenic vaccines.

Synergistic effect between erlotinib and MEK inhibitors in KRAS wild-type human pancreatic cancer
http://www.ncbi.nlm.nih.gov/pubmed/21385921
Investigators at T-Gen sought to find ways to molecularly sensitize pancreatic cancer cells to EGFR inhibition via erlotinib. An siRNA screen revealed that blocking expression of MAPK led to increased sensitivity of BxPC-3 cells to erlotinib treatment. They next showed that combined treatment with erlotinib and MAP kinase kinase (MEK) inhibitors led to synergistic inhibition of pancreatic cancer cells. However, this result only held true in cell lines which express wild-type KRAS, and not mutant KRAS.

DavosLife: vitamin E tocotrienol shows increased cancer cell apoptosis without toxicity
http://www.prnewswire.com/news-releases/davoslife-vitamin-e-tocotrienol-shows-increased-cancer-cell-apoptosis-without-toxicity-in-phase-1-pancreatic-cancer-trial-122821254.html
Mokenge Malafa, MD (Medical Advisory Board) led the team of Moffitt Cancer Center researchers who investigated Davos Life's Natural e3 delta-tocotrienol (Natural e3) in patients with resectable pancreatic cancer. Presented at AACR, this phase I clinical trial suggested that Natural e3 exhibits low toxicity, and leads to apoptosis and increased expression of p27 in pancreatic tumors. Phase I dose escalation studies are underway.

Pancreatic cancer stem cells effectively targeted and destroyed by oncolytic viruses
http://www.medicalnewstoday.com/releases/224745.php
Data presented at Digestive Disease Week® 2011 out of Sloan-Kettering describe oncolytic viruses, or naturally occurring viruses that have been genetically engineered to be safe and express tracking genes, and their potential use for specifically targeting pancreatic cancer stem cells.

Targeting the insulin growth factor pathway in gastrointestinal cancers
http://www.cancernetwork.com/gastrointestinal-cancer/content/article/10165/1859425
Drs. Golan and Javle seek to describe previous work studying IGF receptor inhibitors in GI cancers, and look for a rational strategy to maximizing success on the basis of biomarker use.

Clusterin confers gemcitabine resistance in pancreatic cancer

http://www.wjso.com/content/9/1/59/abstract

This *World Journal of Surgical Oncology* publication evaluates the expression of clusterin, a protein known to play important roles in in various pathophysiological processes,such as tissue remodeling, lipid transport, complement regulation, and apoptosis, in pancreatic cancer. The researchers' data suggest that clusterin is over-expressed in pancreatic cancer tissue, as compared to normal pancreas, and plays a role in conferring gemcitabine resistance.

Regional chemotherapy in locally advanced pancreatic cancer: RECLAP trial

http://www.ncbi.nlm.nih.gov/pubmed/21595953

The purpose of this phase I clinical trial is to determine the feasibility and toxicity of super-selective intra-arterial administration of gemcitabine in patients with locally advanced, unresectable pancreatic adenocarcinoma.

Cellceutix CEO states "Full speed ahead"

http://www.marketwire.com/press-release/cellceutix-ceo-states-full-speed-ahead-otcqb-ctix-1517599.htm

Cellceutix Corporation has decided to attack pancreatic cancer with its compound Kevetrin™, originally developed as an AKT inhibitor, which has since been shown to have other anti-cancer effects. Cellceutix is expecting to complete testing of Kevetrin™ in an animal model of pancreatic cancer in mid-June, and then submit an investigational new drug (IND) application shortly thereafter.

Tragara Pharmaceuticals' apricoxib reverses EMT

http://www.prnewswire.com/news-releases/tragara-pharmaceuticals-apricoxib-reverses-emt-a-key-process-for-cancer-progression-and-metastasis-122668388.html

Tragara Pharmaceuticals, Inc's drug apricoxib (Capoxigem®, TG01) inhibits COX-2 and has been shown to reverse epithelial-to-mesenchymal transition (EMT) in pancreatic cancer and non-small cell lung cancer. Data on this compound were presented at the GI ASCO and AACR meetings. Tragara has completed two phase II clinical trials of apricoxib.

Nuvilex, Inc. announces completion of acquisition of pancreatic cancer treatment technology

http://www.medicalnewstoday.com/releases/226775.php

Nuvilex, Inc. has acquired a treatment technology for pancreatic cancer, involving encapsulated living cells. The cells deliver and convert inactive, pro-drug chemotherapeutics specifically to cancer cells, where the pro-drug is switched to its active, cancer-fighting form. Nuvilex also announced a positive Phase II clinical trial of this compound, conducted in Europe.

AACR highlights: Promise for treating pancreatic cancer

http://www.ncbi.nlm.nih.gov/pubmed/21551418

The *Journal of the National Cancer Institute* published an overview of the progress in pancreatic cancer treatment presented at this year's AACR Annual Meeting.

Design dilemma: The debate over using placebos in cancer clinical trials

http://www.cancer.gov/ncicancerbulletin/050311/page7

This article in the *NCI Cancer Bulletin* discusses the historical precedent that cancer clinical trials not include placebos, and how that is changing due to molecularly targeted agents. The authors propose a novel type of cancer clinical trial, whereby placebo use is minimized. All patients on the trial receive the investigational drug, and then responders continue to receive the drug, and those without response and/or experiencing severe side effects are withdrawn from the trial.

SURVIVORSHIP

Palliative care online: a pilot study on a pancreatic cancer website

http://www.ncbi.nlm.nih.gov/pubmed/21599531

Researchers at the University of Maryland School of Nursing evaluated whether an Internet-based palliative care resource would be utilized and useful for pancreatic cancer patients and their families. An interactive website with access to a palliative care nurse practitioner was added to the Johns Hopkins Pancreatic Cancer Center's website. Results showed that the site was clicked upon, and that important questions were offered, suggesting that the Internet can be useful in providing valuable palliative care information to pancreatic cancer patients and their families.