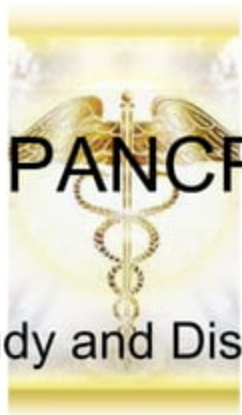
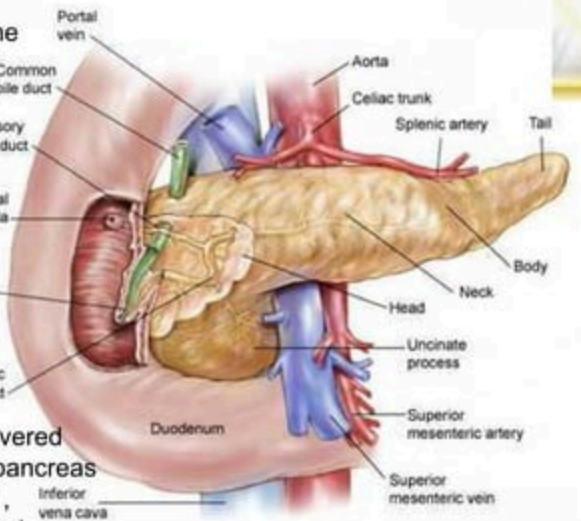


THE PANCREAS

Organ Study and Disease State

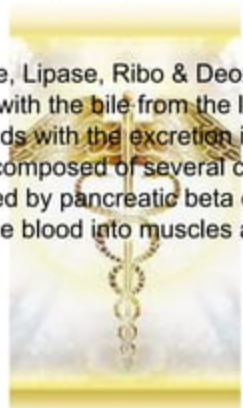
ANATOMY OVER-VIEW:

We see from the illustration of the Pancreas that it is a mixed gland: ecxocrine and endocrine. Long and flat located in the superior quadrant of the abdomen divided into a head, tail, and body. The head contacts the duodenal ansa, apart from the body by an isthmus. The body, oblique and anterior to the aorta and the inferior vena cava. The tail in contact with the spleen covered by the parietal peritoneum.The pancreas extends from the right side of L1, L2 and L3. Secretion is conducted by the Langerhans Islets, which produce hormones that regulate the metabolism of sugars. Pancreatic secretions are transported via small canals and duct systems. The major duct or Wirsung duct courses through the entire pancreas and flows into the major papilla of the duodenum (Papilla of Vater), and distally to the choledochus. The accessory duct (Santorini's canal) flowing into minor of papilla of the duodenum.



ANATOMY (continued):

Pancreatic juice produced by the pancreas follows neuro endocrine stimuli, Vagal and duodenal hormones.



The enzymes of pancreatic juice: Amylase, Lipase, Ribo & Deoxyribouclease,Trypsin, Chymotrypsin, Carboxypeptidase. These proteins along with the bile from the liver are the digestive processes from the pancreas that begins in the mouth and ends with the excretion into the rectum. The endocrine portion of the pancreas, or islets of Langerhans, is composed of several cells that secrete hormones directly into the bloodstream. Insulin is a hormone secreted by pancreatic beta cells in response to a rise in blood sugar. The hormone also moves glucose from the blood into muscles and other tissues so they can use it for energy.

ANATOMY (continued):

In addition, insulin helps the liver absorb glucose, storing it as glycogen in case the body needs energy during stress or exercise.

Glucagon is a hormone secreted by pancreatic alpha cells when there is a decrease in blood sugar. Its primary job is to cause glycogen to be broken down into glucose in the liver. This glucose then enters the bloodstream in order to restore the level to normal.

This general over-view of the anatomy of the pancreas is simplified for ease of understanding to illustrate the major advances that are occurring in clinical trials with bio-pharmaceutical companies.

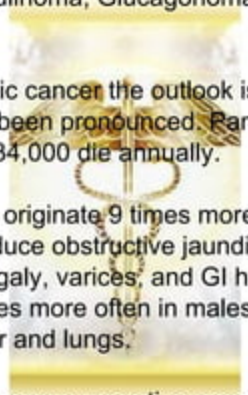
PANCREAS PATHOLOGIES:

The previous general over-view is to help in our understanding of the complex and sensitive nature of the pancreas.The various studies on the pathologies of the organ and the current clinical trials that are ongoing is the basis for this discussion. We will first look at the various oncology pathologies that involve the pancreas, then we will turn to the inflammation of the pancreas (pancreatitis), abscesses, cyst, and lastly the disease of the pancreas Diabetes, in it's various forms.

PANCREATIC CANCER

Ductal Adenocarcinoma,Intraductal Papillary Mucinous Neoplasia (IPMN), Cystadenocarcinoma, Endocrine Tumors, Exocrine Tumors, Insulinoma, Glucagonoma. These are the known cancers of the pancreas we will study first.

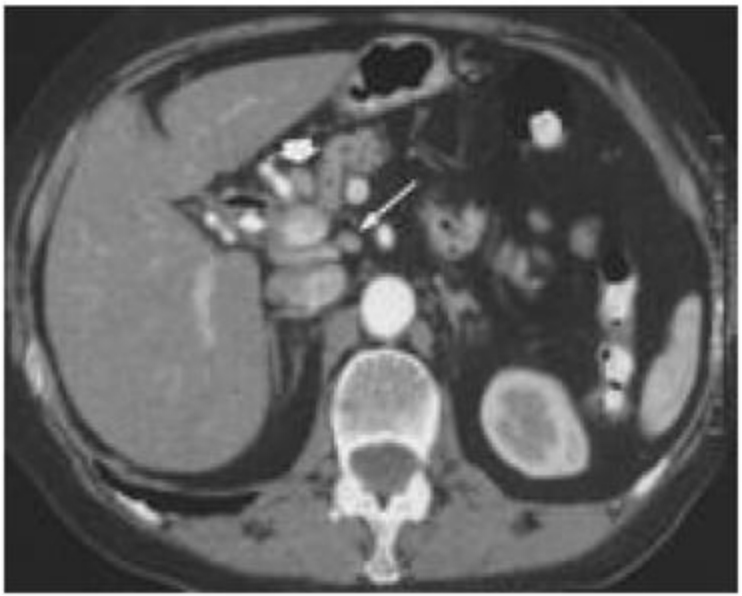
When a patient is told they have pancreatic cancer the outlook is bleak and many times the doctor and the patient realize that a death sentence has been pronounced. Pancreatic cancer is the fourth leading cause of cancer deaths, 38,000 diagnosed and 34,000 die annually.



Ductal Adenocarcinoma, exocrine tumors originate 9 times more often in duct than from acinar cells. Eighty percent occur in the head and produce obstructive jaundice. Tumors in the head and tail may cause splenic vein obstruction, splenomegaly, varices, and GI hemorrhage. The cancer appears at the mean age of 55 an occurs almost two times more often in males. Symptoms occur late by diagnosis ninety percent have metastasized the liver and lungs.

Over-all five year survival is <2%. Most common operative procedure is known as the "Whipple." The "Whipple" or the Pancreaticoduodenectomy can expect five year survival of 10%. Radio and chemotherapy may increase survival with unresectable tumors.

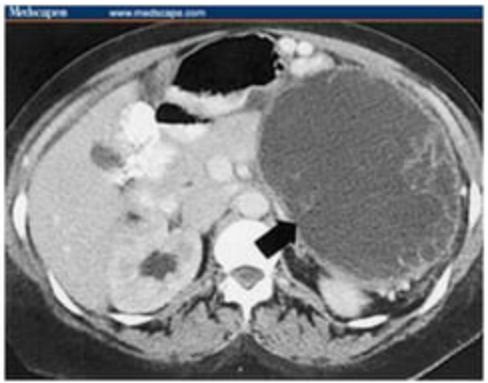
DUCTAL ADENOCARCINOMA



PANCREATIC CANCER

Cystadenocarcinoma
Malignant degeneration of a mucus cystadenoma.
Diagnosed by US or CT scan. Cancer has a good prognosis, 20% metastasis by the time of surgery, (Whipple) with a five year survival rate of 65%.

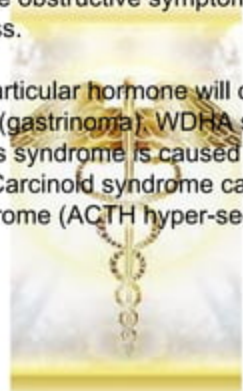
Cystadenocarcinoma



PANCREATIC CANCER

Endocrine Tumors: Islet cell tumors have two types of presentations, Non-functioning and Functioning tumors.Non-functioning tumors may cause obstructive symptoms of the biliary tract, duodenum, or bleeding into the GI as an abdominal mass.

Functioning tumors that hyper-secret a particular hormone will cause various syndromes: hypoglycemia (insulinoma). Zollinger Ellison syndrome, (gastrinoma). WDHA syndrome or pancreatic cholera:watery diarrhea, hypokalemia, and alkalosis. This syndrome is caused by hyper-secretion of vasoactive intestinal pepetide or of prostaglandins E and E2. Carcinoid syndrome caused by carcinoid tumors difficult to determine. Diabetes and Cushing's Syndrome (ACTH hyper-secretion)

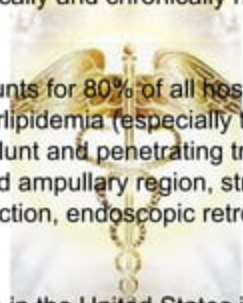


PANCREATIC CANCER

These cancers and syndromes have such a profound effect on so many individuals and the cost to treat the illness is extreme. Various companies are bringing together clinical trials and research centers to study and treat with a possible outcome of curing the illnesses. We will learn of these companies and their various studies later in this presentation.

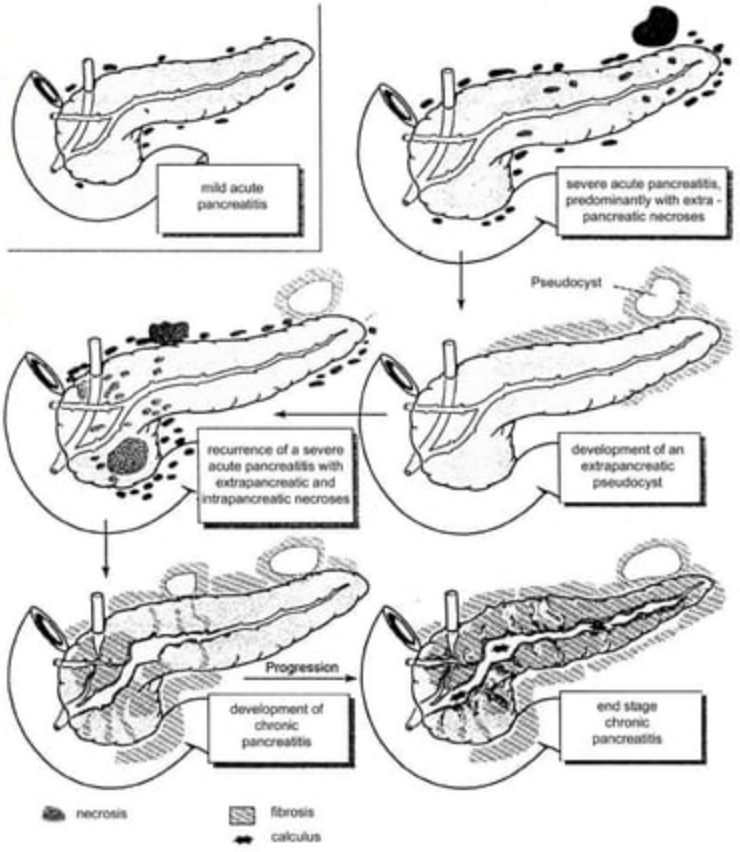
PANCREATITIS

Two varieties of pancreatitis are known, acute and chronic. But what is pancreatitis? The term describes inflammation of both short and long term, clinically and histologically. Pancreatitis is associated with biliary tract calculi. It is possible to be acute clinically and chronically histologically. Etiological agent is usually alcohol in any amount.



Biliary tract disease and alcoholism accounts for 80% of all hospital admissions for acute pancreatitis. The remaining 20% are for hereditary or hyperlipidemia (especially types I and type V hyperlipoproteinemia), hyperparathyroidism and hyercalcemia, blunt and penetrating trauma to the pancreas, drugs, structural abnormalities of the common bile duct and ampullary region, structural abnormalities of the pancreatic duct itself, surgery, vascular disease, infection, endoscopic retrograde pancreatography (ERP), renal transplantation.

Chronic Pancreatitis most common cause in the United States is alcoholism, rare causes are hereditary pancreatitis, hyperparathyroidism, and obstruction of the main pancreatic duct due to stenosis, stones, or carcinoma. Symptoms and signs may be identical to an episode of acute pancreatitis. In chronic pancreatitis there is occasionally no pain. But, severe epigastric pain may present and last many hours to several days, etiology of which is not always clear. In time when acinar cells that secrete pancreatic digestive enzymes are progressively destroyed, abdominal pain may subside. Eventually when lipase and protease secretions are reduced to less than 10% of normal the patient develops steatorrhea and creatorrhea, and may pass greasy stools or even oil droplets. Islet cell destruction reduces insulin secretion and causes glucose intolerance.


mild acute pancreatitis
severe acute pancreatitis, predominantly with extra - pancreatic necroses
Pseudocyst
recurrence of a severe acute pancreatitis with extrapancreatic and intrapancreatic necroses
development of an extrapancreatic pseudocyst
Progression
development of chronic pancreatitis
end stage chronic pancreatitis
necrosis
fibrosis
calculus

PANCREAS RESEARCH & CLINICAL TRIALS

The research and clinical trials of the pancreas are not only costly but difficult to hold because of the nature of the illness and the high mortality rate. There are however, several small bio-pharmaceutical companies that have found and acquired the venture capital to carry on clinical trials on the carcinoma of the pancreas.

Prior to 2010 treatment drug for pancreatic cancer was Gemzar (Eli Lilly). Now several generic variations exist from AFP Pharmaceuticals, Hospira, and Sandoz. Orphan drug status, clinical trials do have an advantage. One of these companies, CureFAKtor Pharmaceuticals for its drug CFAK-C4 indicated for pancreatic cancer. 2011 American Society of Clinical Oncology (ASCO) Gastrointestinal Cancers Symposium.

Focal adhesion kinase is found in almost all solid tumors. FAK functions as a shield around tumors, the purpose of the drug, CFAK-C4 is to remove this shield. Second, abnormal levels of FAK are in almost all solid tumors, breast, pancreas, colon, melanoma, lung, liver, brain,ovary, and sarcoma.. The drug inhibits protein-protein interactions instead of inhibiting the protein kinases which bring on side effects.

CureFAKtor Pharmaceuticals won orphan drug status for its drug CFAK-C4 for pancreatic cancer. In combination with gemcitabine, led the FDA to give orphan drug status to CureFAKtor.

RESEARCH & CLINICAL TRIALS

CureFAKtor Pharmaceuticals delivered it's preclinical data in January 2011 at the American Society of Clinical Oncology (ASCO) Gastrointestinal cancers symposium. CFAK-C4 reduced tumor growth in vivo in mouse pancreatic cells by up to 60%. Showing synergistic effect when combined with gemcitabine 80% tumor size reduction was seen. How does it work? The mechanism of action the drug disrupts the ability of the cancer cells to make new blood vessels and open new pathways that allows the chemotherapy to be more effective.[1]

Interest is growing in the area of pancreatic cancer research; it was no industry secret to suggests a pharmaceutical company that would begin a trial for the disease was nearing the grave yard of the business world. The following slides detail the various pancreatic cancer studies around the world.

CLINICAL TRIALS

Pancreatic Cancer Trial Results

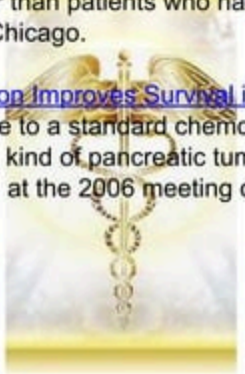
Chemotherapy Regimen Extends Survival in Advanced Pancreatic Cancer Patients
(Posted: 06/07/2011) - A four-drug chemotherapy regimen has produced the longest improvement in survival ever seen in a phase III clinical trial of patients with metastatic pancreatic cancer, one of the deadliest types of cancer.

Targeted Therapies May Be Effective Against Rare Pancreatic Cancer
(Posted: 04/08/2011) - In two phase III clinical trials published February 9, 2011, in the New England Journal of Medicine (NEJM), the targeted therapies sunitinib and everolimus improved outcomes for patients with pancreatic neuroendocrine tumors.

Can Aspirin Reduce Cancer Risk and Mortality?
(Posted: 03/30/2011) - A meta-analysis of eight clinical trials involving regular aspirin use showed a substantial reduction in mortality for a number of different cancers.

CLINICAL TRIALS

Gemcitabine after Pancreatic Cancer Surgery Improves Survival
(Posted: 06/24/2008) - Patients who received the chemotherapy drug gemcitabine after surgery for pancreatic cancer lived two months longer than patients who had surgery alone, according to findings presented at the 2008 ASCO meeting in Chicago.



Gemcitabine Plus Standard Chemoradiation Improves Survival in Patients with Pancreatic Head Tumors
(Posted: 06/05/2006) - Adding gemcitabine to a standard chemoradiation regimen improved overall survival in patients with the most common kind of pancreatic tumors: those located in the head of the pancreas, according to findings presented at the 2006 meeting of the American Society of Clinical Oncology.

CLINICAL TRIALS

Erlotinib Plus Gemcitabine Boosts One-Year Survival in Pancreatic Cancer
(Posted: 05/14/2005, Reviewed: 10/06/2007) - Patients with advanced pancreatic cancer who were treated with the drug erlotinib (Tarceva®) in addition to gemcitabine had modest improvement in one-year survival rates compared to patients treated with gemcitabine alone, according to findings presented at the 2005 meeting of the American Society of Clinical Oncology.

Relationship Between Platinum Levels in the Blood and Neurotoxicity in Patients Who Are Receiving Oxaliplatin for Gastrointestinal Cancer
Phase: Phase IV
Type: Supportive care, Treatment
Status: Active
Age: 18 and over
Sponsor: Other, Pharmaceutical / Industry
Protocol IDs: GERCOR-TAUROX, SANOFI-GERCOR-TAUROX, EU-20573, NCT00274885

CLINICAL TRIALS

Pharmacokinetic Study of Adjuvant Capecitabine After Resection of Pancreatic Adenocarcinoma
Phase: Phase IV
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: CAP001, PDDG/CAP001, NCT00854477

Pre-Operative Staging of Pancreatic Cancer Using Superparamagnetic Iron Oxide Magnetic Resonance Imaging (SPIO MRI)
Phase: Phase IV
Type: Diagnostic
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 08-085, NCT00920023

CLINICAL TRIALS

Dalteparin for Primary Venous Thromboembolism (VTE) Prophylaxis in Pancreatic Cancer Patients
Phase: Phase IV
Type: Supportive care
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 2008-0487, NCT00966277

RCT Steel (Wallstent®) vs Nitinol (Wallflex®) Bile Duct Stent for Palliation of Malignant Obstruction
Phase: Phase IV
Type: Supportive care
Status: Active
Age: 20 and over
Sponsor: Other
Protocol IDs: Steel vs nitinol, NCT00980889

CLINICAL TRIALS

Comparing Covered Self-expandable Metallic Stent (SEMS) Above/Across the Sphincter of Oddi
Phase: Phase IV
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: RaMM-BO 2.0, NCT01041612

Cyclooxygenase-2 Inhibitor for Adjuvant Anticancer Effect in Patients With Biliary-pancreas CancerCyclooxygenase-2 Inhibitor for Adjuvant Anticancer Effect in Patients With Biliary-pancreas Cancer
Phase: Phase IV
Type: Treatment
Status: Active
Age: 19 to 70
Sponsor: Other
Protocol IDs: SNUBH-GS-HBP2, B-0712-052-006 (local IRB), NCT01111591

CLINICAL TRIALS

Stereotactic Body Radiotherapy for Unresectable Pancreatic Cancer
Phase: Phase IV
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 08-060, NCT01346410

Pancreatic Enzyme Suppletion in Pancreatic Cancer
Phase: Phase IV
Type: Supportive care
Status: Approved-not yet active
Age: 18 and over
Sponsor: Other
Protocol IDs: EPC 11-01, 2011-003373-28, NCT01401387

CLINICAL TRIALS

Efficacy Study of Endoscopic Ultrasonography (EUS)-Guided Ethanol Lavage With Paclitaxel Injection for Cystic Tumors of the Pancreas
Phase: Phase III, Phase II
Type: Treatment
Status: Active
Age: 20 to 85
Sponsor: Other
Protocol IDs: AMC0183, NCT00689715

Endoscopic Stenting Versus Surgical Bypass for Low Bile Duct Obstruction by Cancer of the Pancreatic Head
Phase: Phase III, Phase II
Type: Supportive care
Status: Approved-not yet active
Age: 18 and over
Sponsor: Other
Protocol IDs: NNR-02, NCT00753441

CLINICAL TRIALS

Gemcitabine Hydrochloride With or Without Combination Chemotherapy and Radiation Therapy in Treating Patients With Stage IB, Stage II, or Stage III Pancreatic Cancer
Phase: Phase III, Phase II
Type: Treatment
Status: Active
Age: 18 to 75
Sponsor: Other
Protocol IDs: SRSI-PACT-7, PACT-7, EU-20932, NCT00960284

Gemcitabine Hydrochloride, Cisplatin, Epirubicin Hydrochloride, and Capecitabine in Treating Patients With Stage I or Stage II Pancreatic Cancer That Can Be Removed by Surgery
Phase: Phase III, Phase II
Type: Treatment
Status: Active
Age: 18 to 75
Sponsor: Other
Protocol IDs: SRSI-PACT-15, SRSI-PACT-15, EU-21040, NCT01150630

CLINICAL TRIALS

Gemcitabine and ON 01910.Na in Previously Untreated Metastatic Pancreatic Cancer

Phase: Phase III, Phase II
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: 04-22, 11PAN01, NCT01360853

Gemcitabine and Capecitabine With or Without Vaccine Therapy in Treating Patients With Locally Advanced or Metastatic Pancreatic Cancer

Phase: Phase III
Type: Treatment
Status: Active
Age: Over 18
Sponsor: Other
Protocol IDs: CRUK-TELOVAC-V4, EUDRACT-2006-000461-10, EU-20683, ISRTCN43482138, NCT00425360, TELOVAC

CLINICAL TRIALS

Phase III Trial of Gemcitabine, Curcumin and Celebrex in Patients With Advance or Inoperable Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: TASMC-07-NA-132-CTIL, NCT00486460

Gemcitabine With or Without Sorafenib in Treating Patients With Locally Advanced or Metastatic Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: IPC-BAYPAN, BAYPAN, INCA-RECF0426, IPC-2005-006, NCT00541021

CLINICAL TRIALS

Gemcitabine With or Without Capecitabine and/or Radiation Therapy or Gemcitabine With or Without Erlotinib in Treating Patients With Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery

Phase: Phase III
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Other, Pharmaceutical / Industry
Protocol IDs: GERCOR-LAP-07-D07-1, GERCOR-LAP-07-D07-1, EU=20827, ROCHE-GERCOR-LAP-07-D07-1, EudraCT- 2007-001174-81, NCT00634725

Gemcitabine With or Without Capecitabine and/or Dalteparin in Treating Patients With Metastatic Pancreatic Cancer

Phase: Phase III
Type: Biomarker/Laboratory analysis, Supportive care, Treatment
Status: Active
Age: 18 to 80
Sponsor: Other, Pharmaceutical / Industry
Protocol IDs: GERCOR-PAM07-D07-2, GERCOR-PAM07-D07-2, EUDRACT 2007-002115-59, EU-

CLINICAL TRIALS

Phase III Trial of Gemcitabine, Curcumin and Celebrex in Patients With Advance or Inoperable Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: TASMC-07-NA-132-CTIL, NCT00486460

Gemcitabine With or Without Sorafenib in Treating Patients With Locally Advanced or Metastatic Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: IPC-BAYPAN, BAYPAN, INCA-RECF0426, IPC-2005-006, NCT00541021

CLINICAL TRIALS

Gemcitabine With or Without Capecitabine and/or Dalteparin in Treating Patients With Metastatic Pancreatic Cancer
Phase: Phase III
Type: Biomarker/Laboratory analysis, Supportive care, Treatment
Status: Active
Age: 18 to 80
Sponsor: Other, Pharmaceutical / Industry
Protocol IDs: GERCOR-PAM07-D07-2, GERCOR-PAM07-D07-2, EUDRACT 2007-002115-59, EU-20837, PFIZER-GERCOR-PAM07-D07-2, NCT00662688

Gemcitabine With or Without Capecitabine and/or Radiation Therapy or Gemcitabine With or Without Erlotinib in Treating Patients With Locally Advanced Pancreatic Cancer That Cannot Be Removed by Surgery
Phase: Phase III
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Other, Pharmaceutical / Industry
Protocol IDs: GERCOR-LAP-07-D07-1, GERCOR-LAP-07-D07-1, EU=20827, ROCHE-GERCOR-LAP-07-D07-1, EudraCT- 2007-001174-81, NCT00634725

CLINICAL TRIALS

Intraoperative Celiac Plexus Neurolysis for Patients With Operable Pancreatic and Periampullary Cancer
Phase: Phase III
Type: Supportive care
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 08D.380, 2007-32, NCT00806611

A Trial of Patients With Metastatic Adenocarcinoma of the Pancreas
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: CA046, NCT00844649

CLINICAL TRIALS

Gemcitabine Hydrochloride With or Without Erlotinib Hydrochloride Followed By the Same Chemotherapy Regimen With or Without Radiation Therapy and Capecitabine or Fluorouracil in Treating Patients With Pancreatic Cancer That Has Been Removed By Surgery
Phase: Phase III
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: NCI
Protocol IDs: RTOG-0848, RTOG 0848, NCT01013649

Immunotherapy Study for Surgically Resected Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: NLG0405, OBA# 0912-1013, NCT01072981

CLINICAL TRIALS

Randomized Study With Oxaliplatin in 2nd Line Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: OXALI_L_04918, U1111-1116-9746, NCT01121848

GAMMA - Gemcitabine and AMG 479 in Metastatic Adenocarcinoma of the Pancreas
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: 20060540, GAMMA, NCT0123134

CLINICAL TRIALS

Adjuvant Versus Neoadjuvant Plus Adjuvant Chemotherapy in Resectable Pancreatic Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: NEOPAC, NCT01314027

The ARTERY FIRST Approach for Resection of Pancreatic Head Cancer
Phase: Phase III
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: NNR-7, NCT01332773

CLINICAL TRIALS

Study to Evaluate if Neoadjuvant Radiotherapy Improves Recurrence Free Survival in Pancreatic Head Cancer
Phase: Phase III
Type: Treatment
Status: Approved-not yet active
Age: 18 and over
Sponsor: Other
Protocol IDs: NetPac, NCT01419002

Survivin Peptide Vaccination for Patients With Advanced Melanoma, Pancreatic, Colon and Cervical Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 19 to 90
Sponsor: Other
Protocol IDs: SuMo-Sec-01, PEI 0899/01, IRB 07/03, NCT00108875

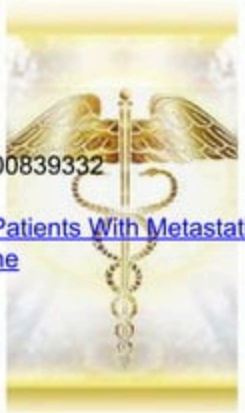
CLINICAL TRIALS

MK-0646 and Gemcitabine +/- Erlotinib for Patients With Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 to 120
Sponsor: Other
Protocol IDs: 2007-0910, NCT00769483

Phase I-II to Evaluate Efficacy/Safety of Sorafenib+Gemcitabine+Radiotherapy in Locally Advanced Pancreatic Carcinoma
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: GEMCAD 01/07, NCT00789763

CLINICAL TRIALS

A Study for Patients With Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 to 85
Sponsor: Pharmaceutical / Industry
Protocol IDs: 12096, I2I-MC-JMMC, NCT00839332



Cetuximab and Trastuzumab in Treating Patients With Metastatic Pancreatic Cancer That Progressed After Previous Treatment With Gemcitabine
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: CLCC-THERAPY, THERAPY, RECF0910, VA-2008/34, EUDRACT-2008-003988-39, NCT00923299

CLINICAL TRIALS

Intensity-Modulated Radiation Therapy and Gemcitabine in Treating Patients With Locally Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: NCI, Other
Protocol IDs: CDR0000639635, P30CA072720, CINJ-070805, 0220090024, 070805, NCT00878657

Neoadjuvant Accelerated Short Course Radiation Therapy With Photons and Capecitabine for Resectable Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 08-375, NCT00889187

CLINICAL TRIALS

NC-6004(Nanoplatin) and Gemcitabine to Treat Pancreatic Cancer in Asia
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 20 to 75
Sponsor: Pharmaceutical / Industry
Protocol IDs: NC-6004-002, NCT00910741

Conatumumab, Gemcitabine Hydrochloride, Capecitabine, and Radiation Therapy in Treating Patients With Locally Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Approved-not yet active
Age: 18 and over
Sponsor: NCI
Protocol IDs: RTOG-0932, RTOG 0932, NCT01017822

CLINICAL TRIALS

Trial of Gemcitabine With or Without AS703026 (MSC1936369B) in Pancreas Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: EMR200066_003, NCT01016483

A Study Evaluating Gemcitabine Plus Bosutinib for Patients With Resected Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 09456, 10-00560, NCT01025570

CLINICAL TRIALS

Low Dose Radiation to Improve T-Cell Infiltration in Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: IMPACT2010, NCT01027221

A Randomised Trial With Irinotecan, Cetuximab and Everolimus (ICE)Compared to Capecitabine and Oxaliplatin (CapOx) for Patients With Gemcitabin Resistant Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Approved-not yet active
Age: 18 and over
Sponsor: Other
Protocol IDs: ICE, NCT01042028

CLINICAL TRIALS

Everolimus, Cetuximab and Capecitabine in Patients With Metastatic Pancreatic Cancer
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: AMCmedonc08/345, NCT01077986

MK0752 and Gemcitabine Hydrochloride in Treating Patients With Stage IV Pancreatic Cancer That Cannot Be Removed by Surgery
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: CRUK-CR0720-11, CR0720-11, CRUK-MK-0752, EUDRACT-2008-004829-42, NCT01098344

CLINICAL TRIALS

Tomotherapy in Locally Advanced Gallbladder and Pancreatic Cancers
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 to 75
Sponsor: Other
Protocol IDs: IRB 599, NCT01118897

Study of Pre-surgery Gemcitabine + Hydroxychloroquine (GcHc) in Stage IIb or III Adenocarcinoma of the Pancreas
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 19 and over
Sponsor: NCI, Other
Protocol IDs: UPCI 09-122, PO1101944, NCT01128296

CLINICAL TRIALS

AXP107-11 in Combination With Standard Gemcitabine (Gemzar®) Therapy for Treatment in Patients With Pancreatic Cancer
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: AXP-CT-001, NCT01182246

Combination Therapy of L19IL2 and Gemcitabine in Advanced Pancreatic Cancer Patients
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: PH-L19IL2GEM-01/07, 2007-001609-81, NCT01198522

CLINICAL TRIALS

Combination With Gemcitabine in Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: 14905, EudraCT No.: 2010-019588-12, NCT01251640

Endoscopic Bipolar Radiofrequency Probe (ENDOHPB) in the Management of Unresectable Bile Duct and Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 14865, NCT01303159

CLINICAL TRIALS

Role of Cyberknife Stereotactic Radiation Therapy (SBRT) Followed by Gemcitabine for Patients With Locally Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: CE 09.153, NCT01304160

Trial of Neoadjuvant Short Course IMRT Followed by Surgery and IORT for Resectable Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Approved-not yet active
Age: 50 and over
Sponsor: Other
Protocol IDs: NEOPANC, NCT01372735

CLINICAL TRIALS

A Study Evaluating IPI-926 in Combination With Gemcitabine in Patients With Metastatic Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: IPI-926-03, NCT01130142

Chemoradiation With Gemcitabine in Combination With Panitumumab for Patients With Locally Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 20080686, NCT01175733

CLINICAL TRIALS

AXP107-11 in Combination With Standard Gemcitabine (Gemzar®) Therapy for Treatment in Patients With Pancreatic Cancer
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: AXP-CT-001, NCT01182246

Combination Therapy of L19IL2 and Gemcitabine in Advanced Pancreatic Cancer Patients
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: PH-L19IL2GEM-01/07, 2007-001609-81, NCT01198522

CLINICAL TRIALS

Combination With Gemcitabine in Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Active
Age: 18 and over
Sponsor: Pharmaceutical / Industry
Protocol IDs: 14905, EudraCT No.: 2010-019588-12, NCT01251640

Endoscopic Bipolar Radiofrequency Probe (ENDOHPB) in the Management of Unresectable Bile Duct and Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: 14865, NCT01303159

CLINICAL TRIALS

Role of Cyberknife Stereotactic Radiation Therapy (SBRT) Followed by Gemcitabine for Patients With Locally Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: CE 09.153, NCT01304160

Trial of ICM With or Without AZD2281 (Olaparib) in Patients With Advanced Pancreatic Cancer
Phase: Phase II, Phase I
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: NCI, Other
Protocol IDs: J1070, RC2CA148346-01, NA_00032826, NCT01296763

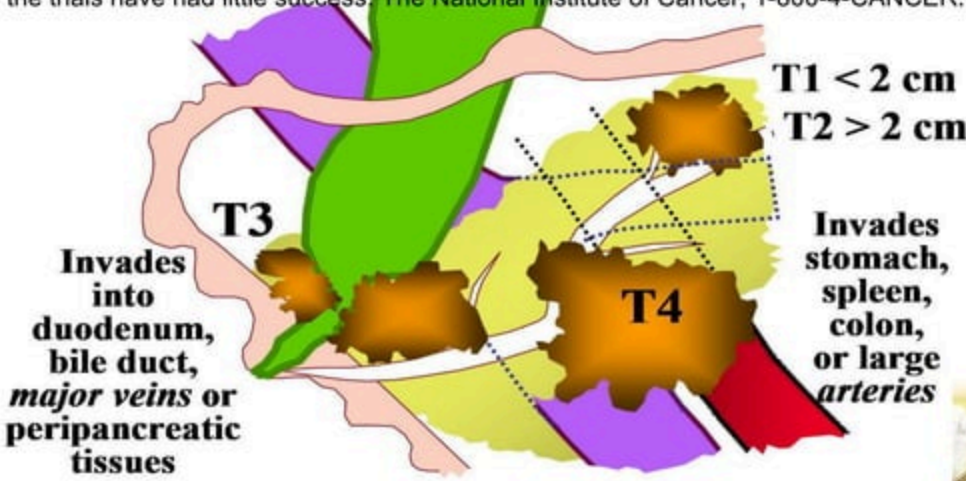
CLINICAL TRIALS

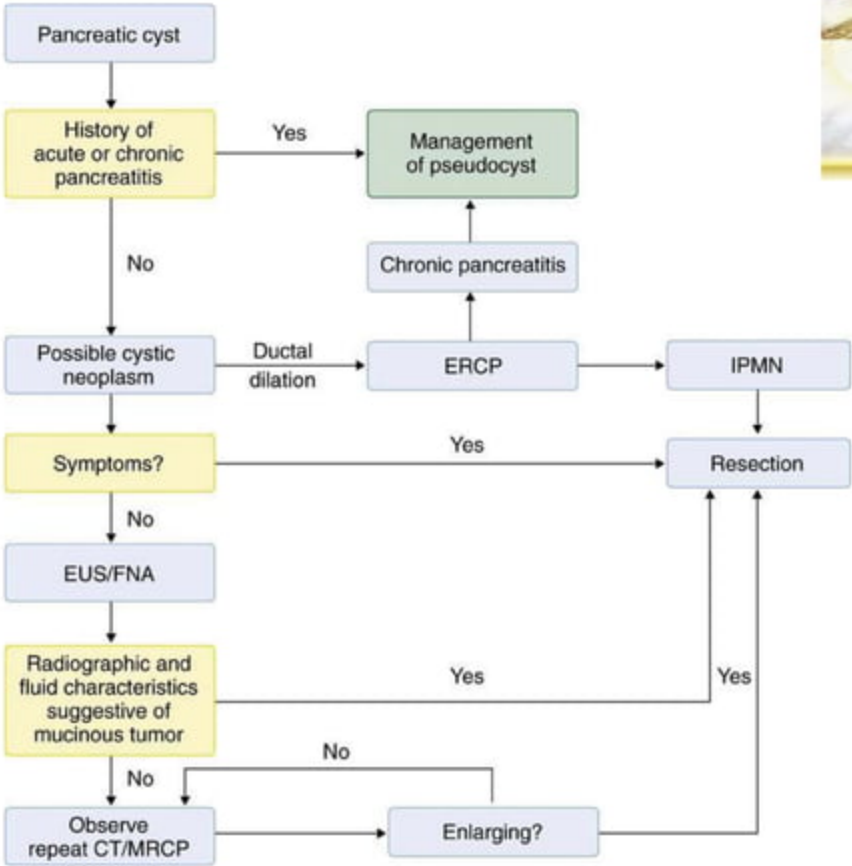
Gemcitabine in Combination With LDE-225 (Hedgehog Inhibitor) as Neoadjuvant Therapy for Pancreatic Adenocarcinoma
Phase: Phase II, Phase I
Type: Biomarker/Laboratory analysis, Treatment
Status: Approved-not yet active
Age: 18 and over
Sponsor: Other
Protocol IDs: J1130, NA_00047491, NCT01431794

Cisplatin, Metronomic Low-Dose Interferon alfa, Gemcitabine, and Fever-Range Whole-Body Hyperthermia in Treating Patients With Inoperable or Metastatic Pancreatic Cancer
Phase: Phase II
Type: Treatment
Status: Active
Age: 18 and over
Sponsor: Other
Protocol IDs: UTHSC-MS-02117, NCT00082862

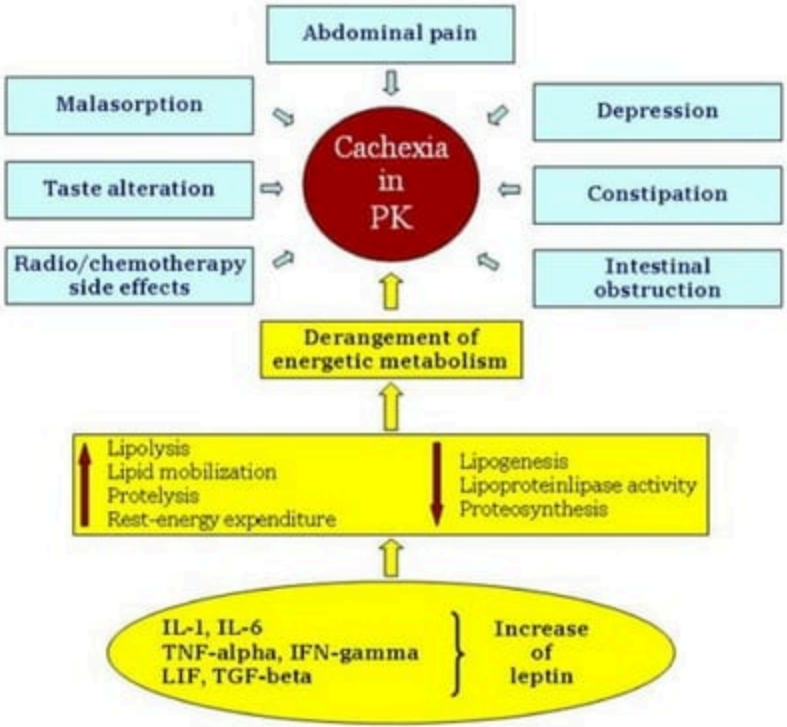
PANCREATIC STAGES

As you can see there are numerous clinical trials occurring, however given the grim outlook of the disease the trials have had little success. The National Institute of Cancer, 1-800-4-CANCER.



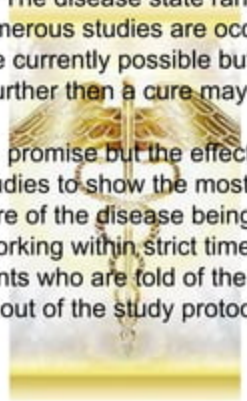

Pancreatic cyst
History of acute or chronic pancreatitis
Yes
Management of pseudocyst
No
Chronic pancreatitis
Possible cystic neoplasm
Ductal dilation
ERCP
IPMN
Symptoms?
Yes
Resection
No
EUS/FNA
Radiographic and fluid characteristics suggestive of mucinous tumor
Yes
Yes
No
No
Observe repeat CT/MRCP
Enlarging?

PANCREAS SYMPTOMS



PANCREAS

As we study the diseases of the pancreas (Cancer/inflammation) we must also look at the prevalent and growing more common disease diabetes. The disease state ranging from mild, (pancreatitis) to severe, (carcinoma) and thus life terminating. Numerous studies are occurring to try and prolong the patients life with pancreatic cancer. A cure may not be currently possible but if medical science can prolong the patients life and study the disease state further then a cure may be one day in the near future.



Radiation and chemotherapy have shown promise but the effect on the normal or healthy tissue is deleterious to the patient's health. The studies to show the most promise are those protocols that deal with protein protein interactions. With the nature of the disease being so devastating the companies that are performing the necessary research are working within strict time lines and rigid requirements. If there is even a slight chance of success the patients who are told of the diagnosis of adenocarcinoma of the pancreas must be categorized ruled in or out of the study protocol within a matter of days as opposed to weeks.

PANCREAS

Genetic studies early in the life of the patient have promise of indicating the likelihood of the patient developing pancreatic carcinoma.

Researchers have made some progress in identifying some of the genetic changes that might predispose an individual to pancreatic cancer. The *ras* gene is abnormal in 95% of all patients with pancreatic cancer. The *p53* and *BRCA-2* genes make a protein that slows or prevents growth of normal cells and protects the cells against cancer. These genes are called tumor suppressor genes.

A mutation (an abnormal change in the gene) of the *p53* and *BRCA-2* gene induces cells to produce abnormal proteins that alters the growth of the cell. *BRCA-2* genes are thought to be an important cause of breast cancer and may be responsible for up to 10% of all breast cancers. Recent studies have suggested that BRCA-2 genes may also play a role in the development of pancreatic cancer.The *p53* gene that is abnormal in 75% of all pancreatic cancer. The treatment for pancreatic cancer traditionally can be just as devastating as the disease itself. With these new genetic markers and the ability to study these changes that occur in the body early then the odds of one day discovering a possible cure or better a way to prevent the disease all together comes closer to being a reality.

PANCREAS

The disease of the pancreas known to many as a "curse" is diabetes. Several types of diabetes are known. Five main forms of diabetes are known as the of the writing of this presentation. They are as follows: 1. Type I

2. Type II
3. Gestational
4. MODY I - VI, Genetic defects of beta cell functions
5. Traumatic

PANCREAS

Gestational diabetes develops only in pregnant women with no previous history of diabetes. Nearly 135,000 U.S. women develop gestational diabetes each year.

Typically, gestational diabetes clears up on its own after women have delivered their babies. But studies show that about 40% of women with gestational diabetes go on to develop type 2 diabetes within 15 years. All pregnant women should be tested for gestational diabetes between their 24th and 28th weeks of pregnancy.

Keeping a healthy weight, eating healthy food and regular exercise during pregnancy may help prevent insulin resistance and gestational diabetes.

Risk factors

- Diabetes tends to run in families.
- Too many pounds increases insulin resistance.
- Native Americans, African-Americans, and people of Hispanic or Latino descent are at increased risk. Whites and Asians have a lower risk.

PANCREAS

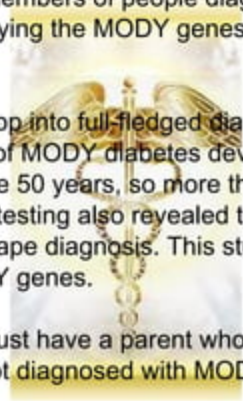
What causes it? Hormones play a role. Pregnant women produce various hormones essential to their baby's growth. However, these hormones may interfere with the mother's body's ability to properly use insulin, causing insulin resistance. All pregnant women have some degree of insulin resistance. But if this resistance becomes full-blown gestational diabetes, it usually appears around the 24th week of pregnancy.

PANCREAS

MODY1: Caused by a mutation in transcription factor HNF4A
MODY2: Caused by a mutation in the enzyme Glucoknase (GCK)
MODY3: Caused by a mutation in Transcription Factor TCF1
MODY4: Caused by a mutation in Transcription Factor IPF1
MODY5: Caused by a mutation in Transcription Factor TCF2
MODY6: Caused by a mutation in Transcription Factor NEUROD1

PANCREAS

Until very recently, these form of diabetes were thought to only appear in people under age 25. However, recent genetic studies where the family members of people diagnosed with MODY were given genetic testing turned up the fact that people carrying the MODY genes are often misdiagnosed as having Type 1 or Type 2 diabetes.



It was also learned that MODY can develop into full-fledged diabetes as late as age 50. The Klupa study, referenced below, found that in one kind of MODY diabetes developed in 65% of those who carried the gene by age 25 years and in 100% by age 50 years, so more than 1/3 of all people with this kind of diabetes do not develop it in youth.Gene testing also revealed that in some forms of MODY, the blood sugar problems may be so mild as to escape diagnosis. This study explored the insulin secretion of non-diabetic people carrying diagnosed MODY genes.

So while it is usually true that a person must have a parent who carries the MODY gene to develop MODY, the fact that your parents were not diagnosed with MODY does not rule out the possibility that you have it.

This is especially true if you got your MODY gene from your father. If the MODY gene comes from your mother, it is much more likely that she would have developed gestational diabetes during pregnancy and been diagnosed, though even here you can't be sure as testing and treatment of gestational diabetes in people who were not obese was very lax as recently as the 1980s. In addition, being the product of a diabetic pregnancy may change the intensity with which the MODY genes express.

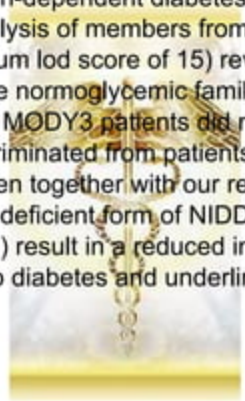
PANCREAS

MODY2: Maturity-onset diabetes of the young type 2 (MODY2) is a genetic form of diabetes mellitus caused by mutations in the glucokinase gene (*GCK*). The frequency of *GCK* gene mutations in Jordanian suspected MODY2 patients. Screening exons 7, 8 and 9, which are specific for pancreatic glucokinase, for mutations at positions 682A>G, p.T228A; 895G>C, p.G299R, and 1148C>A, p.S383X, respectively, in 250 subjects (100 patients suspected to have MODY2 and 150 healthy controls without family history of diabetes mellitus). Found any association of these mutations in Jordanian suspected MODY2 patients or in healthy controls, different from data on Caucasian Italian patients screened for the same mutations.

According to our diagnostic screening of GCK in the MODY Registry, MODY2 is less prevalent than MODY3 in Norway but is likely to be under reported. Recognizing MODY2 in diabetic patients is important in order to prevent over treatment. Finally, the study demonstrates the co-occurrence of MODY2 in families with type 1 or type 2 diabetes.

PANCREAS

MODY3: Maturity-onset diabetes of the young (MODY) type 3 is a dominantly inherited form of diabetes, which is often misdiagnosed as non-insulin-dependent diabetes mellitus (NIDDM) or insulin-dependent diabetes mellitus (IDDM). Phenotypic analysis of members from four large Finnish MODY3 kindreds (linked to chromosome 12q with a maximum lod score of 15) revealed a severe impairment in insulin secretion, which was present also in those normoglycemic family members who had inherited the MODY3 gene. In contrast to patients with NIDDM, MODY3 patients did not show any features of the insulin resistance syndrome. They could be discriminated from patients with IDDM by lack of glutamic acid decarboxylase antibodies (GAD-Ab). Taken together with our recent findings of linkage between this region on chromosome 12 and an insulin-deficient form of NIDDM (NIDDM2), the data suggest that mutations at the MODY3/NIDDM2 gene(s) result in a reduced insulin secretory response, that subsequently progresses to progresses to diabetes and underlines the importance of subphenotypic classification in studies of diabetes.



PANCREAS

MODY4: Is an autosomal dominant early-onset type 2 diabetes caused by mutations of the IPF1 gene. Maturity-onset diabetes of the young (MODY) is a monogenic autosomal-dominant form of diabetes mellitus with onset before 25 years of age. Genetic variation in insulin promoter factor-1 (IPF1) (MODY4) is uncommon but may contribute to early- or late-onset diabetes as part of a polygenic background. IPF1 is a homeodomain transcription factor required for pancreas development. The aim was to identify whether IPF1 gene mutations play a role in Italian early-onset type 2 diabetic (T2D) patients and what functional impact mutations may have in the beta cell. Screening 40 Italian early-onset type 2 diabetic probands for IPF1 mutations, performed oral glucose tolerance tests in the unaffected family members, and performed in vitro functional studies of the mutant variant. In an extended family (Italy-6) of 46 members with clinical phenotypes of gestational diabetes, MODY, and T2D, a single nucleotide change of CCT to ACT was identified at codon 33 resulting in a Pro to Thr substitution (P33T) in the IPF1 transactivation domain that also contributes to an altered metabolic status in the unaffected NM subjects. Of the 22 genotyped Italy-6 members, 9 carried the P33T allele (NM), of whom 5 have either T2D or elevated fasting glucose levels. Oral glucose tolerance tests showed higher glucose levels at 90 minutes in unaffected NM compared with unaffected NN subjects. Of the 5 female pregnant carriers of the IPF1 mutation, 4 had pregnancies complicated by reduced birth weights, miscarriages, or early postnatal deaths. In studies in vitro, the IPF1 mutant protein (P33T) showed a reduction in DNA-binding and transcriptional activation functions as compared to the wild-type IPF1 protein. Our findings suggest that the P33T IPF1 mutation may provide an increased susceptibility to the development of gestational diabetes and MODY4 in the Italy-6 pedigree.

PANCREAS

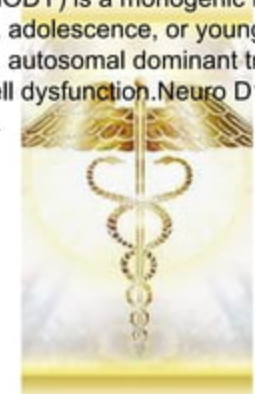
MODY5:

Hepatocyte nuclear factor 1alpha (HNF1alpha) and HNF1beta (or vHNF1) are closely related transcription factors expressed in liver, kidney, gut, and pancreatic beta-cells. Many HNF1 target genes are involved in carbohydrate metabolism. Human mutations in HNF1alpha or HNF1beta lead to maturity-onset diabetes of the young (MODY3 and MODY5, respectively), and patients present with impaired glucose-stimulated insulin secretion. The underlying defect in MODY5 is not known. Analysis of HNF1beta deficiency in mice has not been possible because HNF1beta null mice die in utero. To examine the role of HNF1beta in glucose homeostasis, viable mice deleted for HNF1beta selectively in beta-cells (beta/H1beta-KO mice) were generated using a Cre-LoxP strategy. beta/H1beta-KO mice had normal growth, fertility, fed or fasted plasma glucose and insulin levels, pancreatic insulin content, and insulin sensitivity. However, beta/H1beta-KO mice exhibited impaired glucose tolerance with reduced insulin secretion compared with wild-type mice but preserved a normal insulin secretory response to arginine. Moreover, beta/H1beta-KO islets had increased HNF1alpha and Pdx-1, decreased HNF4 mRNA levels, and reduced glucose-stimulated insulin release. These results indicate that HNF1beta is involved in regulating the beta-cell transcription factor network and is necessary for glucose sensing or glycolytic signaling.

PANCREAS

MODY6:

- Maturity Onset Diabetes of Youth (MODY) is a monogenic form of early-onset diabetes mellitus (DM), which usually develops in childhood, adolescence, or young adulthood.
- It is characterized by nonketotic DM, autosomal dominant transmission, onset before the age of 25 years of age, and pancreatic beta cell dysfunction.Neuro D1, beta 2 type MODY6 treatment is insulin therapy or oral hypogycemic agents.



PANCREAS

The field of medicine and science as it pertains to the research of the pancreas is not only growing but it is developing to what one day my be a timely treatment s