



PEARL



The Pancreas Education and Research Letter

Hereditary Pancreatitis Study: Past and Present

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PEARL is a
publication of the
Pancreatic Studies Office in the
Division of Gastroenterology,
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at the University of Pittsburgh



Editors

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The Hereditary Pancreatitis (HP) Study was initiated by David C. Whitcomb, MD, PhD in 1995 at the University of Pittsburgh. Dr. Whitcomb closely collaborated with Dr. Larry Gates at the University of Kentucky who cared for many of the initial family members who were enrolled. Drs. Charles Ulrich, II and Steven P. Martin, also participated in patient recruitment at Breaks Interstate Park. The original focus of this study was to determine the major gene mutation (change) that causes hereditary pancreatitis. With the help of our participating families, the genetic cause for about 90% of hereditary pancreatitis was discovered in the cationic trypsinogen gene (PRSS1). Since that time, this finding has led to new research projects and new understandings about pancreatic diseases all around the world.



Dr. Whitcomb recently received a grant from the National Institutes of Health (NIH) to support new studies on hereditary pancreatitis. The new HP Study will build on the first study but will also focus on new approaches to prevention and therapies. To continue this research, updated medical and family history information will be collected from the more than 200 families already enrolled using a newly-designed questionnaire. In addition, the HP research team will continue to recruit new families.

The HP research team now includes: Dr. Whitcomb; Christina M. Chimera, MS, new study coordinator and genetic counselor previously employed at the Yale Cancer Center; and Veronique Morinville, MD, an instructor in Medicine who recently joined our group from McGill University Health Center in Montréal and has a special interest in pediatric pancreatitis. With the generous participation of HP families and our dedicated research team, we hope to eventually find a treatment or a cure for this disease.

If you and/or a family member are already enrolled (or want to participate) in our study and would be willing to complete our new, updated questionnaire, please call our toll free number at **1-888-PITT-DNA** and speak with one of our coordinators. This year we also plan to start a clinic for families with Hereditary Pancreatitis. We wish to provide families with an opportunity to meet specialists in pancreatitis, including gastroenterologists and genetic counselors. If your family would like to obtain more information, please contact our pancreatic studies office at the number listed above. •••

Welcome to the first issue of the Pancreas Education and Research Letter (PEARL)!

This newsletter combines the *Hereditary Pancreatitis Research News* with updates on research in hereditary pancreatitis, acute and chronic pancreatitis and pancreatic cancer. PEARL will contain information about ongoing and planned studies, new discoveries, facts about pancreatic diseases and their treatment, and other opportunities and announcements. This first issue will introduce you to our current studies. Copies of the research newsletter will continue to be posted on our website at www.pancreas.org. Studies described within PEARL are all patient and family dependent and we appreciate everyone who has contributed their time and support. In an effort to update contact information, please complete and mail the attached self-addressed postcard to our office. If you would prefer to receive the newsletter in the future as an electronic copy via email, please mark this option on the postcard. Also, please feel free to pass copies of this newsletter to friends or family who might be interested in PEARL and pancreatic research. •••

On the Internet:
www.pancreas.org

Toll-Free Phone:
1-888-PITT-DNA
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Severity of Acute Pancreatitis Study (SAPS-1)

Acute pancreatitis (AP) is a common inflammatory disease of the pancreas, which includes a sudden onset of abdominal pain, nausea, vomiting, and an increase of pancreatic digestive enzymes in the blood. The course of acute pancreatitis can vary. In most patients, the inflammation stays within the pancreas and causes a mild illness. However, in about 20% of patients, other organs are involved which brings about a severe illness that could, in rare cases, cause death. Unfortunately, at the present time we are not able to predict which patients will have mild or severe acute pancreatitis, and the amount of injury to the pancreatic tissue doesn't appear to determine the severity of the illness. Therefore, there are other factors that determine the degree of inflammation after injury to the pancreas. Research suggests a strong role of genetic factors in pancreatic diseases. In order to better understand acute pancreatitis, the Severity of Acute Pancreatitis Study (SAPS-1) was started in the summer of 2003 and is managed by Georgios Papachristou, MD (gastroenterology fellow), Adam Slivka, MD, PhD (principal investigator), and David Whitcomb, MD, PhD. Study participants include patients that are hospitalized with acute pancreatitis at the University of Pittsburgh Medical Center. By participants providing blood samples during their hospitalization, the study can look at changes in DNA (genetic makeup) between patients with mild versus severe acute pancreatitis in order to determine if any of these changes cause a more severe illness. Through this research, it may be possible to better predict and manage those who may be at an increased risk for severe acute pancreatitis. •••

Kids' Corner

We want to learn about kids too! It might surprise you to hear that symptoms of inherited pancreatic problems often begin in childhood. A child may develop unexplained abdominal pain, nausea, vomiting or other difficulties. When this occurs, he/she may face numerous doctor visits and hospital stays. Even when the pancreas has been identified as the cause of the symptoms, the problems may be difficult to manage.

People of all ages, including children, can participate in research studies. Our research team carefully considers a child's age and medical history on an individual basis before determining if he/she can participate in a particular study and then discusses this with the family to make a final decision. We trust that our current genetic studies and future clinical studies will provide better solutions to the management of pancreatic problems in children.

We also plan to use this section of future PEARL issues to provide information to kids about the pancreas in order to help them understand pancreatic disorders and management. •••



Dr. Whitcomb Travels to Bangladesh and India

In December 2004, Dr. Whitcomb visited several major pancreatic research centers in Bangladesh and India. The visit included planning of major research projects to find the cause of tropical pancreatitis in Bangladesh in patients with diabetes, and to participate in the National Workshop on Tropical Pancreatitis at the Amrita Institute of Medical Sciences and Research Centre in Kochi, India. Dr. Whitcomb delivered ten lectures, including the Ninth Ibrahim Memorial Oration at an international conference in Dhaka, Bangladesh and the keynote lectures at the National Workshop. Dr. Whitcomb also visited Dr. Chandak's Laboratory at the Centre For Cellular Molecular Biology (CCMB) in Hyderabad, India (see picture above), which is among the leading pancreatitis research laboratories in India. •••

PAGER: Pancreatic Adenocarcinoma Gene and Environment Risk Study

The PAGER study is designed to research the genetic and environmental causes of pancreatic cancer. Enrollment began in the fall of 2004 and includes patients with pancreatic cancer at the University of Pittsburgh as well as their family members. Participants provide a one-time blood sample and complete a questionnaire about personal medical history, family history, diet, exercise, occupation, and other environmental exposures. The Pancreatic Studies Office has also started a PAGER registry by collecting information with this same questionnaire from families across the country with two or more relatives with pancreatic cancer. Participants in these studies may also be contacted in the future about other pancreatic cancer studies available to them.

The University of Pittsburgh is a collaborating center in the PCCR (Pancreatic Cancer Collaborative Registry) Project, based at the University of Nebraska. The PCCR Project uses a secure web-based database (<http://pccr.unmc.edu>) to collect information from multiple centers to create a national database for pancreatic cancer; and will also include data from the PAGER study and registry. Non-identifying information (participants cannot be identified) is shared between research centers and analyzed in order to quickly increase our understanding of pancreatic cancer and help in discovering how to better prevent, detect, and treat this cancer. Dr. Saima Sharif (a fellow in hematology/oncology at the University of Pittsburgh) recently joined the research team and used the PCCR Project database for the framework in creating the PAGER study questionnaire. With Dr. Sharif's efforts as well as the help of our study coordinators, Christina Chimera and Beth Elinoff, recruitment for the PAGER study and registry has had a successful start. •••



Jeong-Ah Kwon, research specialist, in Dr. Whitcomb's lab.

North American Pancreatitis Study II Enrolls Over 1,000 Subjects

The North American Pancreatitis Study II (NAPS II) is one of the most significant studies on recurrent acute and chronic pancreatitis that has ever been conducted in the United States. The unique cooperation of 20 major academic centers in the United States combined with advanced genetics and computational biology (computer technology for collecting and analyzing data) will make it possible for one of the most difficult and puzzling medical problems to be solved. The list of participating institutions and the primary collaborating investigators can be found at right. The study, which was started in 2002, is designed to enroll 1,000 patients with either recurrent acute or chronic pancreatitis in order to determine the genetic and environmental factors that combine to cause this disease. Enrollment will also include 1,000-2,000 controls (those without pancreatitis), such as a family member, spouse, or friend of the patient. The primary study coordinator and coordinating center manager, Beth Elinoff, RN, MPH has helped recruit over 300 participants from the University of Pittsburgh alone, while other centers have contributed enough subjects to total enrollment over 1,000. •••

NAPS II Research Consortium

Primary Investigators and their Site Locations

David Whitcomb and Adam Slivka – *University of Pittsburgh, Pittsburgh, PA*
Peter Banks – *Brigham and Women's Hospital, Boston, MA*
Hans Fromm – *Dartmouth-Hitchcock Medical Center, Lebanon, NH*
Michael Kochman – *University of Pennsylvania, Philadelphia, PA*
John Baillie – *Duke University Medical Center, Durham, NC*
Michele Bishop – *MAYO Jacksonville, Jacksonville, FL*
Robert Hawes and Peter Cotton – *Medical University of South Carolina, Charleston, SC*
Christopher Forsmark – *University of Florida, Gainesville, FL*
Randall Brand – *Evanston Northwestern Healthcare, Evanston, IL*
Stuart Sherman – *Indiana University, Indianapolis, IN*
Stephen Amann – *North Mississippi Medical Center, Tupelo, MS*
Mark DeMeo – *Rush University Medical Center, Chicago, IL*
Frank Burton – *St. Louis University, St. Louis, MO*
Michelle Anderson – *University of Michigan, Ann Arbor, MI*
James DiSario – *University of Utah, Salt Lake City, UT*
Simon Lo – *Cedars-Sinai Medical Center, Los Angeles, CA*
Bob Etamad – *Ochsner Clinic and Foundation, New Orleans, LA*
Mary E. Money – *Dr. Waldman and Money, PA (Private Practice), Hagerstown, MD*

Inside Dr. David Whitcomb's Laboratory

Researchers in Dr. Whitcomb's lab have begun applying new methods to improve lab techniques called the Toyota Production System (TPS). Sirvart Kassabian, MD, research fellow, (*in foreground, photo at right*) along with Janette Lamb, PhD, lab manager, and Lori Kelly, BS, research specialist, (*in background, photo at right*) are using the principles of TPS to carefully organize and describe each step of the gene discovery process to allow the researchers to more quickly discover new clues to pancreatic disease and to avoid errors and failed experiments. Dr. Kassabian joined Dr. Whitcomb's research lab in the spring of 2003 in order to combine a research fellowship with a master's degree in hospital administration at St. Joseph's College of Maine. Ms. Kelly is a senior technical member of the lab who joined the team in the fall of 2004 to help apply and work to improve TPS. The research team expects that this new system will significantly accelerate the discovery process. •••



NPF Starts an Online Support Group

The National Pancreas Foundation (NPF) is a non-profit organization that supports research and provides information and services to patients and families with pancreatic disorders. The University of Pittsburgh has worked closely with the NPF, and last year, volunteers from the NPF visited Dr. Whitcomb's lab (*see photo at right*). Recently, the NPF has organized an online support group through an e-mail list, which allows information to be shared between members. To learn more, please visit the NPF website at: www.pancreasfoundation.org/live/supportgroups.htm. •••



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