

NFPTR NEWS

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Important Contact

Information for NFPTR

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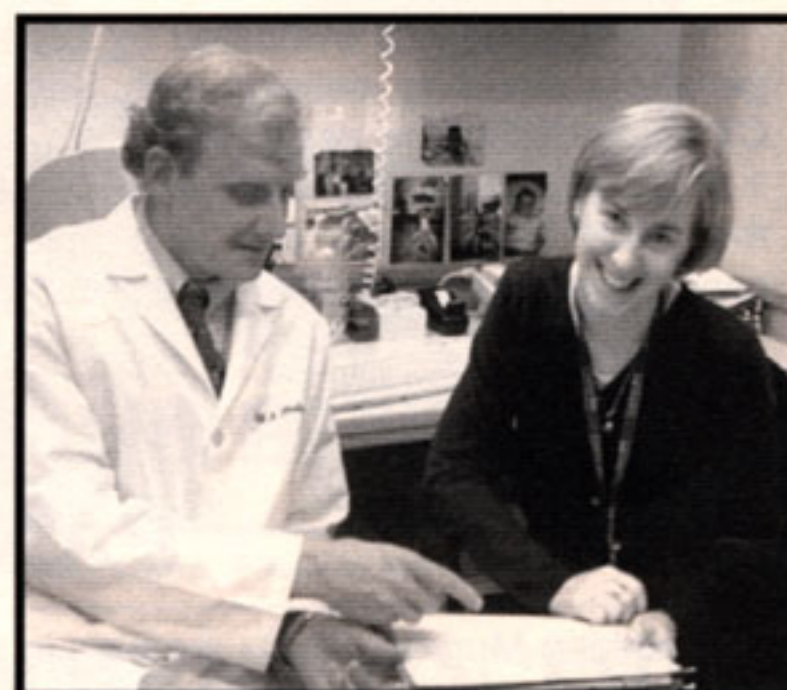
UPDATE FROM THE DIRECTOR

The National Familial Pancreas Tumor Registry (NFPTR) is a research registry dedicated to advancing our understanding of why pancreatic cancer runs in some families. We sincerely appreciate your participation, without which our research would not be possible. Simply put, you are the NFPTR!

The NFPTR has grown substantially this year and is now clearly the world's largest registry for familial pancreatic cancer. To date over 800 families have already joined the NFPTR. These families provide a critical resource for our studies of pancreatic cancer.

In this issue of the NFPTR NEWS, we report that the NFPTR has obtained a Certificate of Confidentiality from the federal government (page 2) and we provide updates on our research. For example, Dr. Mimi Canto reports her successes with her Phase I trial of screening for early pancreatic cancer using endoscopic ultrasonography and CAT scanning. This study was conducted on family members participating in the NFPTR (page 2). We look forward to Phase 2 (called CAPS 2) of Dr. Canto's study.

Also in this issue, Dr. Kathy Murphy



Dr. Ralph Hruban with Kieran Brune

reports on her study of the breast cancer gene (BRCA2) in familial pancreatic cancer (page 2). This study by Dr. Murphy provides an important framework for the genetic counseling of patients with familial pancreatic cancer.

We are also pleased that Alison Klein has completed her PhD thesis on Familial Pancreatic Cancer. For her thesis, Dr. Klein used mathematical models to analyze how pancreatic cancer is inherited (page 3). We are excited that Terry

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FROM THE COORDINATOR

I truly appreciated receiving all of your responses to last year's newsletter and hope that this year's responses are just as positive! **I would encourage everyone to take a moment to complete and return our update response card and let us know how you and your family are doing.** In your responses, please provide as much detailed medical information as you can and please ask any questions that you may have. Our update response card is a good way for us

to stay in touch and your continued participation in the NFPTR is the reason why our studies are so successful. I also welcome phone calls and e-mails at anytime.

Volume 1 of the NFPTR NEWS is available on our website at:

[Http://pathology2.jhu.edu/pancreas/nfptr_issue1.pdf](http://pathology2.jhu.edu/pancreas/nfptr_issue1.pdf)

Look for links to this newsletter on our site as well. Happy Holidays!

Kieran A. Brune, Coordinator

CANCER PREVENTION STUDY (CAPS)- CAN EUS DETECT EARLY PANCREATIC CANCER?

Dr. Mimi Canto recently completed Phase 1 of her study of the effectiveness of Endoscopic Ultrasonography (EUS) in screening for early pancreatic cancer. Thirty selected individuals from the NFPTTR were screened. These participants were healthy relatives of patients with pancreatic cancer who were at least 40 years of age and had three or more family members who had been diagnosed with pancreatic cancer. This group of patients was chosen for screening based on Dr. Tersmette's study (page 4).

Participants were evaluated by EUS and completed a genetic counseling session with Jennifer Sollenberger. CT scans were also performed when appropriate. Phase 1 of Dr. Canto's study was very successful. In some of the study participants she was able to visualize pre-cancerous changes in their pancreas. Some of these pa-



Mimi Canto, M.D., M.H.S

tients chose to have surgery and are doing well. Individuals with more subtle changes of uncertain significance are being monitored closely. It is hoped that the results of this study will help doctors identify and treat early lesions in the pancreas before they develop into an invasive cancer.

Dr. Canto has been awarded additional funds from the NIH to extend her program to a larger patient population in Phase 2, called CAPS 2. If you would like additional information on Dr. Canto's study, please contact her study coordinator, Lori Wroblewski at lwroblew@jhmi.edu or 410-955-3821.

THE BRCA2 GENE AND FAMILIAL PANCREATIC CANCER

Kathleen Murphy, Ph.D., working in the laboratory of Scott Kern M.D., has studied selected blood samples from the NFPTTR to try to discover genetic risk factors for pancreatic cancer. DNA isolated from over 30 samples was evaluated for mutations in four different genes (*BRCA2*, *MAP2K4*, *MADH4*, and *ACVR1B*). No mutations were identified in three of the genes (*MAP2K4*, *MADH4*, and *ACVR1B*). However, mutations in *BRCA2* (known as the second breast cancer gene) were discovered in approximately 14% of



Kathleen Murphy, Ph.D

the samples, making *BRCA2* mutations the most common inherited genetic predisposition to pancreatic cancer identified to date. It is likely that there are still other unidentified genetic risk factors for pancreatic cancer, as is shown by Dr. Klein's work (page 3). Therefore, analysis of the NFPTTR samples continues in the Kern Lab, and Dr. Maitra (page 3) begins his gene chip study to help us further clarify the genetic risk factors for pancreatic cancer.

CERTIFICATE OF CONFIDENTIALITY

Participants in our registry are often concerned about the private nature of the information that they provide to our registry. They want to help our researchers but fear that their participation in our registry may somehow be disclosed to an insurance company. Recognizing these concerns regarding privacy, The National Familial Pancreas Tumor Registry applied for and was recently granted a Confidentiality Certificate (NCI-01-062) from the National Institute of Health, Department of Health and Human Services.

While significant safeguards were already in place, this certificate will help us to further protect the confiden-

tial information that you have provided to our registry. This certificate affords us legal protection from having to involuntarily release any information about you or your family. **With this certificate, our investigators cannot be forced by court order to disclose any information which may identify our participants in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.**

If you have any questions regarding this certificate or if you would like a copy of the certificate, please feel free to contact Kieran Brune at 410-955-3502.

*"Courage conquers all things: it even gives strength to the body."
Ovid*

USE OF GENE CHIP TECHNOLOGY TO STUDY FAMILIAL PANCREATIC CANCER

We are very pleased that Dr. Anirban Maitra has joined our team. Dr. Maitra, from the University of Texas Southwestern, is the John H. Yardley Fellow in Gastrointestinal Pathology and he has already begun his work on unraveling the genetic basis of familial pancreatic cancer. The defining mutation (i.e., genetic abnormality) that leads to a familial aggregation of pancreatic cancer is not known in the vast majority of pancreatic cancer kindreds, even in those families with five or six affected relatives. If the gene or genes responsible for familial pancreatic cancer were to be unearthed, it could potentially lead to the development of a "gene test" for relatives of pancreas cancer patients. Family members found not to carry the abnormal gene would be relieved of anxiety, while those with the gene mutation would be intensively followed with radiological and serum based assays for detection of early, and therefore potentially curable, disease.

One of the pioneers of "gene chip" technology, Dr. Aravinda Chakravarti, heads the Institute of Genetic Medicine here at Johns Hopkins. Dr. Maitra will collaborate with Dr. Chakravarti and apply "gene chip" technology to

the study of families enrolled in the NFPTR. These chips are designed to look at thousands of genes in the human genome simultaneously, and will greatly speed up the pace at which the hunt for the "familial pancreas cancer gene" is being conducted at Johns Hopkins.



Dr. Anirban Maitra at work in the lab

THE EFFECT OF THE ENVIRONMENT ON THE DEVELOPMENT OF PANCREATIC CANCER

While much of the work of the NFPTR has focused on identifying the genes responsible for the development of pancreatic cancer, it is clear that environmental exposures can also influence one's cancer risk. We are excited that Theresa Yeo, a nurse practitioner in the oncology clinic and a Ph.D. student at The Johns Hopkins University Bloomberg School of Public Health, will study the relationship between environmental exposures and familial pancreatic cancer as a focus of her PhD thesis. Specifically, she will study the rela-



Theresa Yeo

tionship between environmental exposures to tobacco smoke and chemicals and the development of pancreatic cancer in families. Ms. Yeo's study follows on the heels of Dr. Klein's successful PhD study of familial pancreatic cancer using the mathematical technique of segregation analysis (see below). We wish Ms. Yeo the best of luck on this exciting project and look forward to a better understanding of how environmental exposures play a role in the development of pancreatic cancer.

INHERITANCE STUDY ON PANCREATIC CANCER

Alison Klein, Ph.D. recently completed her doctoral degree in Epidemiology here at Johns Hopkins University by studying families enrolled in the NFPTR. For her dissertation work she applied statistical models to the family information we have collected in the registry to gain a better understanding of how pancreatic cancer is inherited in some families. Through Dr. Klein's work, we found further support for the hypothesis that there is a



Alison Klein, Ph.D.

yet undiscovered gene that may put some individuals at a higher risk of developing pancreatic cancer. While her study indicates that this yet undiscovered gene is very rare, we hope the results of this study will help us to develop future studies to find the gene(s) that increase one's risk for pancreatic cancer so that we may be able to improve the counseling, screening, and treatment options for pancreatic cancer patients and their families.

NATIONAL FAMILIAL PANCREAS TUMOR REGISTRY
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**PLEASE
 REMEMBER TO
 RETURN YOUR
 UPDATE CARD!**

PAIN MANAGEMENT AND PANCREATIC CANCER

By: JoAnn Coleman, R.N.

Although pain is a common symptom of pancreatic cancer, it can be successfully controlled, and cancer patients should be able to maintain their quality of life. Each patient is an important member of the pain management team and each must be evaluated individually to develop a treatment plan based upon their particular needs. Other members of the pain management team may include medical oncologists, radiation therapists, surgeons, anesthesiologists, advanced practice oncology nurses, social workers, pastors, psychologists, and psychiatrists. In order to make an informed decision regarding pain management, a patient should understand what causes the pain and what may prevent effective pain control, as well as all treatments that could be used to manage their pain. Patients also need to be able to describe their pain. The use of pain assessment tools are beneficial in doing so.

There are several approaches to treating cancer pain, including treating the underlying cancer with chemotherapy, radiation therapy, surgery, anesthesia procedures, or other therapy. Medications directed at the pain itself are the main way to treat the cancer pain and a variety of pain medications are available to try. These medications can be administered via different modes (by mouth, as a patch on the skin, by continuous intravenous patient-controlled analgesia, or pain blocks to name a few). The type and amount of pain medication may need to be adjusted to each patient's needs. A patient should seek a new cancer care team if he or she feels that the team is not responsive to his or her pain.

RISK OF PANCREATIC CANCER

Anne Tersmette, PhD, a Dutch epidemiologist who graduated with a Masters of Public Health from the Johns Hopkins School of Public Health, and subsequently received her Ph.D. training in the Netherlands, recently studied the first-degree relatives (siblings, parents, and children) of patients enrolled in the NFPTR prior to September 1, 1998. These individuals, who were apparently healthy at their time of enrollment in the NFPTR, were followed over time to see whether they were at an increased risk of developing pancreatic cancer. Families in which there were at least two first-degree relatives with pancreatic



Dr. Anne Tersmette

cancer (called "familial pancreatic cancer") were analyzed separately from families without a pair of relatives with pancreatic cancer. During the follow up period, six new pancreatic cancers developed in the families followed. When she compared this number to the expected number of pancreatic cancers, she found that family members in "familial pancreatic cancer families" had a significantly greater risk of developing pancreatic cancer than expected. In the familial pancreatic cancer families with three or more affected relatives, the risk was even higher. These results help establish that there is a familial form of pancreatic cancer and they helped form the basis for Dr. Canto's new screening study (see page 2).

(Continued from page 1)

Yeo will follow in Alison's footsteps and pursue her PhD thesis with us (page 3).

We were very pleased that the NFPTR was featured in an article in the November/December issue of the Saturday Evening Post Magazine. The article detailed the importance of our family studies and summarized much of what is already known about familial pancreatic cancer.

We hope you enjoy this edition of the NFPTR NEWS, we welcome your feedback, and we sincerely appreciate your participation in the National Familial Pancreas Tumor Registry.

Ralph H. Hruban, M.D.
 Director, NFPTR