the INHERITED CANCER REGISTRY at the Moffitt Cancer Center

WINTER 2011

What's Inside?

Welcome Message

The last year has been a very exciting time for the ICARE team, as participation has continued to grow to over 700 participants. As we continue to experience such rapid growth, we would like to reinforce to our registry participants how much we value the information you have agreed to share with us. We are actively using this information to further our understanding of key characteristics of familial cancers such as prevention and detection to improving treatment options for those at risk for hereditary forms of cancer. Of note, we continue to partner with both national and international colleagues to help address issues faced by those with inherited cancer predisposition.

Another very successful opportunity to grow ICARE was during the Annual Joining FORCEs Against Hereditary Cancer Conference this past summer, which marked the second year the ICARE study team has attended this event. This annual conference has brought researchers, healthcare providers and members of the high-risk community from all over the world together to discuss advances in the field of cancer genetics over the past six years. The conference provides members of the high-risk community an opportunity to ask researchers and clinicians important questions about the field and serves as a platform for the high-risk community to further the research mission by enrolling into research studies.

Once again, we wholeheartedly thank you for your continued and enthusiastic support for the ICARE initiative, and our mission to *"End the cycle of inherited cancer through research, education, and outreach."*

Sincerely,

Tuya Pal, MD, FABMG
Principal Investigator, ICARE
On behalf of the ICARE team

Staying Connected with our Members

The ICARE study team understands the importance of keeping our members updated about the activities of the registry and recent advances in the field of cancer genetics through our periodic newsletters.

Additionally, we plan to send registry participants small tokens of gratitude which include one or all of the following items: a lunch bag, magnet, birthday card and a flower seed packet. Other items will continue to become available.

Recruitment and Participation Update

Participation in the ICARE initiative continues to expand through referrals, events and active outreach efforts. There are more than 700 participants, including over 500 individuals from families with a *BRCA* mutation currently enrolled in the registry. Participants in ICARE represent 40 U.S. states and 8 countries worldwide. We continue to foster relationships with genetics professionals throughout Florida and beyond and hope to maintain the pace at which our registry has grown in such a short time. We would like to especially thank those who have returned the initial ICARE questionnaire as well as those who have updated their personal and medical history by completing our annual follow-up questionnaire. Through these questionnaires, we collect data that is critical to answer important questions about issues faced by those at risk for inherited cancer predisposition.

Research Corner

Due to recent surgical advances, a woman may feel overwhelmed when deciding what type of mastectomy and reconstruction is right for her. One option available to select women is known as a 'nipple-sparing mastectomy'. In a recent study from the Lombardi Comprehensive Cancer Center at Georgetown University Hospital, nipple-sparing mastectomy was shown to be a safe and effective procedure in properly selected patients. This center performed 162 nipple-sparing mastectomies on 128 patients (between 1989 and 2010), which included 113 prophylactic mastectomies on 80 patients. Of the 80 patients who underwent nipple-sparing prophylactic mastectomy, 25% were known carriers of *BRCA1/2* mutations. Patients were followed for a mean time of three years during which time no new cancers or recurrence of cancers developed in the nipple-areola complex. The preservation of the natural nipple may be an important factor regarding body image and quality of life; however, retaining nipple sensation as a secondary outcome has not been well studied.

Christine Laronga, MD, FACS

Dr. Christine Laronga, a breast surgeon at the Moffitt Cancer Center, has been conducting a research study to evaluate the various outcomes of nipple-sparing mastectomies. Women who are deemed eligible for the study will have the opportunity to decide between having either a nipple-sparing or skin-sparing mastectomy. The study will specifically look at body image, quality of life, and nipple sensation after surgery. Participants in this study are asked to complete follow-up questionnaires and undergo nipple sensation testing at six months and one year post-surgery. If you, or someone you know, may be interested in participating in this study, please contact the ICARE study team at 813-745-6446 (toll free 1-800-456-3434 ext. 6446) and we will assist you in getting more information.

Reference: *Spear, SL, et al. "Nipple-Sparing Mastectomy for Prophylactic and Therapeutic Indications" Plast Reconstr Surg 2011; 128: 1005-14.*

Facing our Risk of Cancer Empowered (FORCE)

In early 2012, Facing our Risk of Cancer Empowered (FORCE) will be launching a Research Advocate Training Program that will prepare members of the high-risk community for engagement in research review and safety panels. This program is designed for those who are interested in having an impact on clinical research affecting the high-risk community and will provide researchers with the personal perspective of an individual affected by hereditary cancer. The program will consist of approximately five webinars on topics including "Cancer 101", basic genetics, intro to clinical trials and research, patient protection, ethics, and more. Participants need not be *BRCA+*, but must have an interest in representing the hereditary breast and ovarian cancer community. Contact lisas@facingourrisk.org for more details on how to apply for this exciting new program. Space is limited.

We also hope to see you during the upcoming Joining FORCEs Against Hereditary Cancer Conference on October 18-20, 2012 in Orlando, FL! The ICARE study team will be providing information about ICARE, enrolling people into the registry, and touching base with those who have previously decided to participate. Please stop by the ICARE station to learn more about what's new with the registry and meet the study team. For those who are already a part of ICARE, please provide us with any updates in your medical or family history. To find out more, please visit the *"FORCE Events"* tab on the FORCE website, www.facingourrisk.org.

Atmosphere © Frances Falk, 2001

Other Research Opportunities

Here is a list of ongoing and upcoming research opportunities available at the Moffitt Cancer Center that may be of interest to you or your family members.

1. Cancer Treatment Side Effects Survey - Dr. Roohi Ismail-Khan, a breast oncologist and researcher at the Moffitt Cancer Center, has developed an online survey to help determine the side effect profile of *BRCA* carriers to cancer therapy. To be eligible for this study:
   - You should be a genetic carrier of either a *BRCA1* or *BRCA2* mutation.
   - You should have received treatment for cancer.

2. Phase II PARP Inhibitor Clinical Trial - An upcoming clinical trial will be opening to both men and women with either a *BRCA1* or *BRCA2* mutation and metastatic breast cancer to evaluate a PARP inhibitor (Veliparib) in combination with other agents, as well as a Platinum-based agent.

More information about these and other research opportunities can be found under the "*Other Research Opportunities"* tab on our website, www.Moffitt.org/ICARE. Please contact the ICARE study team by phone (813-745-6446, toll free: 1-800-456-3434 ext. 6446) or email (ICARE@Moffitt.org) to learn more.

Importance of Genetic Counseling for Young Women At Risk for Carrying BRCA Mutations

Daughters (ages 18-24) of mothers who carry *BRCA* mutations were surveyed through a study at the Dana-Farber Cancer Institute (part of the Harvard Cancer Center) to learn about their knowledge about hereditary breast and ovarian cancer. Preliminary results, which were recently presented at the Era of Hope conference in Orlando, revealed that these young women worried a great deal about hereditary cancer. Specifically, in contrast to women who received genetic counseling, those who did not have genetic counseling had limited knowledge about hereditary breast and ovarian cancer. They also tended to be less aware of their medical management options, such as when to begin screening and their options for cancer risk reduction. This study highlights the importance of genetic counseling (i.e. conducted by a certified genetics professional) for those with an inherited cancer predisposition, especially younger at-risk family members who have not developed cancer. *Note: These results have not yet been published in a peer-reviewed journal.*

Reference: *Elizabeth, M. (2011, August 5) Counseling May Help Women at Risk for Breast Cancer Gene. HealthDay News. Retrieved August 11, 2011, from http://consumer.healthday.com*

Ask the Research Investigator

Through each newsletter, we plan to give registry participants an opportunity to have their genetics and research questions answered by qualified experts. Please send your questions to ICARE@Moffitt.org. We are excited to learn what questions you have for us! In this newsletter, Dr. Nagi Kumar, a registered dietician and researcher at the Moffitt Cancer Center, explains how diet can affect individuals who carry *BRCA1/2* mutations.

Nagi Kumar, PhD, RD, FADA

Can Diet Influence Cancer Risk for Those Who Carry BRCA1/2 Mutations or Other Hereditary Cancer Genes?

Cancer is a complex biological process, determined by genes and influenced by the environment. Factors other than gene mutations may influence risk in individuals at risk for hereditary cancer. Some research has suggested that environmental factors, such as diet, may influence the likelihood to develop cancer in those with hereditary cancer gene mutations. Diet, however, cannot fix gene mutations causing hereditary cancer and therefore cannot eliminate risk caused by these mutations.

> *"Diet, however, cannot fix gene mutations causing hereditary cancer and therefore cannot eliminate risk"*

New Study Suggests Testing for the KRAS Oncogene Variant to Help Determine Ovarian Cancer Risk is Unwarranted

In the summer of 2010, Mira Dx launched a new test (called PreOvar™) which was marketed as a new genetic marker of cancer risk for families with hereditary breast and ovarian cancer, based on the results of a small study (of about 1000 participants, including less than 40 *BRCA* mutation carriers).[1] Specifically, this marker was reported to be associated with a stronger cancer risk in women with a *BRCA1* mutation, as well as those without a *BRCA* mutation detected but with a family history of the disease. PreOvar™ was commercially marketed as a clinical test to evaluate ovarian cancer risk in women with *BRCA1* mutations and women with a family history of ovarian cancer with no *BRCA* mutation. Subsequently, an international group of researchers studied this marker in a much larger number of women (i.e., almost 20,000 women, including over 2,500 *BRCA1* mutation carriers).[2] This much larger study found that this marker did not confer a high risk of ovarian cancer and concluded that its use as an ovarian cancer susceptibility test seemed unwarranted. This example highlights the importance of confirming research findings prior to marketing clinical tests to healthcare providers and patients.

> *"This highlights the importance of confirming research findings prior to marketing clinical tests to healthcare providers and patients"*

1. *Ratner E, Lu L, Boeke M, Barnett R, et al. "A KRAS-variant in ovarian cancer acts as a genetic marker of cancer risk." Cancer Res. 2010;70(16):6509-15*

2. *Pharoah PDP, Palmieri RT, Ramus SJ, et al. "The Role of KRAS rs61764370 in invasive epithelial ovarian cancer: implications for clinical testing" Clin. Cancer Res. 2011; 17(11): 3742-3750.*

Plug-in to ICARE

We are proud to announce that our website, www.Moffitt.org/ICARE, was launched earlier this year. On our website you can learn more about the purpose of the registry, find out about other research opportunities that may be of interest to you and meet the ICARE study team. Through the website you can submit questions or request information about the registry through the online contact form. On our website you may view a short informational video about ICARE. The film features study investigators discussing hereditary cancer and the purpose of the ICARE initiative. To view the video, please visit the *"What is ICARE?"* tab on our website and follow the link.

We are also excited to announce that our participants now have the option to complete the initial ICARE questionnaire online. We will also have an online version of our follow-up questionnaire available in the near future. For more information, please contact the ICARE team by phone (813-745-6446) or email (ICARE@moffitt.org).

High Risk Colorectal Cancer Clinic Opening

We are pleased to announce the opening of our High Risk Colorectal Cancer Clinic at the Moffitt Cancer Center. Led by Dr. David Shibata in conjunction with our Genetic Counseling and Testing Service, this clinic offers comprehensive, multidisciplinary care to individuals at increased risk for colorectal and other associated cancers (such as gynecologic, urinary tract, dermatologic cancers, among others). For further information about this clinic, contact ICARE (at 813-745-6446) or Moffitt's Genetic Counseling and Testing Service (at 813-745-3555).

Introducing New Study Team Members

Since the last newsletter was published, there have been two genetic counselors and one research assistant who have joined our research team. To learn more about the ICARE team, please visit the *"Who We Are"* tab on our website, www.Moffitt.org/ICARE.

Meghan Sherman, MS
Genetic Counselor

Debbie Cragun, MS, CGC
Genetic Counselor

Anika Fernandez, BS
Research Assistant

Acknowledgements and Upcoming Newsletter Topics

We hope you enjoyed reading this edition of our periodic ICARE newsletter. If you are interested in learning more about any of the featured topics or have suggestions for future editions, please contact the study team. Here are a few topics we plan on discussing in our upcoming newsletters:

- How Biomarkers Can Be Used For Early Cancer Detection
- Risk Among *BRCA* Negative Individuals with a Known Family Mutation
- Understanding the Evolution of the Term "Genetic Counselor"

This newsletter was developed by the ICARE team, including: Dr. Tuya Pal, Courtney Lewis, Christina Bittner, and Anika Fernandez. In addition, we would like to extend a special thanks to Drs. Nagi Kumar and Christine Largona for their contribution. If you would like additional copies of this newsletter to share with your family or friends please contact us:

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Toll Free: 1-800-456-3434 ext. 6446
Fax: 813-449-8403
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Website: www.Moffitt.org/ICARE

Why Did You Join ICARE?

During the 2011 FORCE conference, we asked our participants to share their motivation for enrolling into ICARE. Here are just a few of the responses we received:

"I want to take part in finding a cure for hereditary cancer"
-Texas

"I hope future generations will benefit from this research"
-Canada

"I have breast cancer and four of my family members have died from the disease"
-Florida

"I hope my seven-inch breast lump will help contribute to the cure"
-Canada

"I have cancer and I want to advance the field so that other people never have to go through this"
-Minnesota

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