INDIANA UNIVERSITY
IU SIMON CANCER CENTER
Indiana University Melvin and Bren Simon Cancer Center

IUSCC news

March 2015

Genetic markers may help determine who benefits from aspirin, NSAIDs in lowering colorectal cancer risk

An Indiana University cancer researcher and her colleagues have identified genetic markers that may help determine who benefits from regular use of aspirin and other nonsteroidal anti-inflammatory drugs for lowering one's risk of developing colorectal cancer.

Previous studies have shown that regular use of aspirin and NSAIDs lower one's risk of colorectal cancer, but their use is not recommended as a way to prevent the disease because of uncertainty about the risks and benefits. Thus, the researchers set out to examine the interrelationship between genetic markers and the use of aspirin and NSAIDs to learn who actually benefits from their use. They did so by conducting a genome-wide analysis of gene by environment interactions.

Nan

Hongmei Nan, MD, PhD, research associate professor in the Department of Epidemiology at the Richard M. Fairbanks School of Public Health at IUPUI and a researcher at the IU Simon Cancer Center, and her colleagues found that colorectal cancer risk differed according to genetic variation at two single nucleotide polymorphisms -- more commonly known as SNPs -- at chromosomes 12 and 15. Interestingly, for the SNP at chromosome 12, they found that aspirin and/or NSAID use was associated with a lower risk of colorectal cancer among individuals with a specific genotype, while a higher risk was found among those with other genotypes.

Their study was published March 17 in the Journal of the American Medical Association.

"These novel findings have substantial clinical significance," Dr. Nan, the lead author, said. "Our findings, if validated in additional populations, may facilitate targeted colorectal cancer prevention strategies and contribute to precision medicine."

This study is the first and largest genome-wide analysis of gene by environment interactions between SNPs and regular use of aspirin or NSAIDs in relation to colorectal cancer risk. In this case-control study using the Colon Cancer Family Registry and the Genetics and Epidemiology of Colorectal Cancer Consortium, the authors included 8,634 colorectal cancer cases and 8,553 non-cancerous controls.

Dr. Nan is also director of the Epidemiology Consultation Core and a member of the Cancer Prevention and Control research program.

Colorectal cancer is the second leading cause of cancer death in the United States, according to the National Cancer Institute. In 2014, it was estimated that there would be 136,830 new cases of colorectal cancer and an estimated 50,310 people would die from the disease.

This study was supported, in part, by the National Institutes of Health under grant numbers CA137088, CA059045, CA122839, CA097735, CA074783, CA074794, CA48998, CA055075, CA167552, CA137178, CA151993, CA127003, DK098311, CA074783, CA076366, and CA154337.

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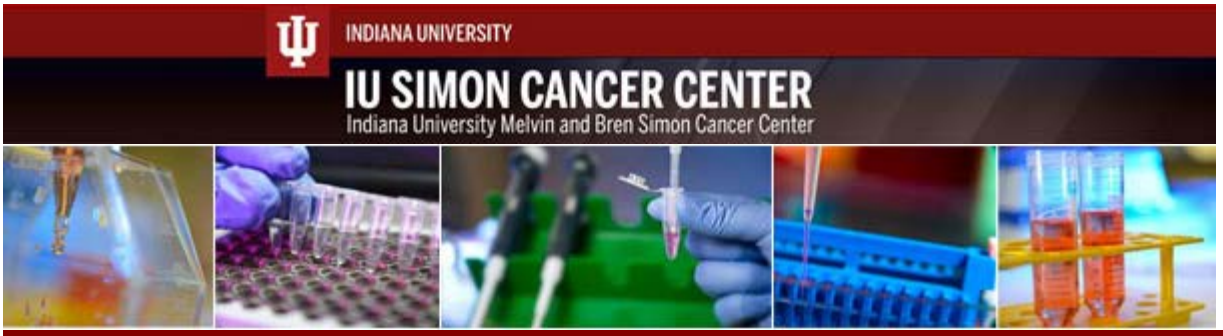

IUSCC news

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News briefs

3 earn AACR travel awards

The IU Simon Cancer Center presented travel awards to a graduate student and two fellows to attend this year's American Association for Cancer Research (AACR) Annual Meeting in Philadelphia, April 18-22.

The recipients, their abstract titles, and their cancer center mentors are:

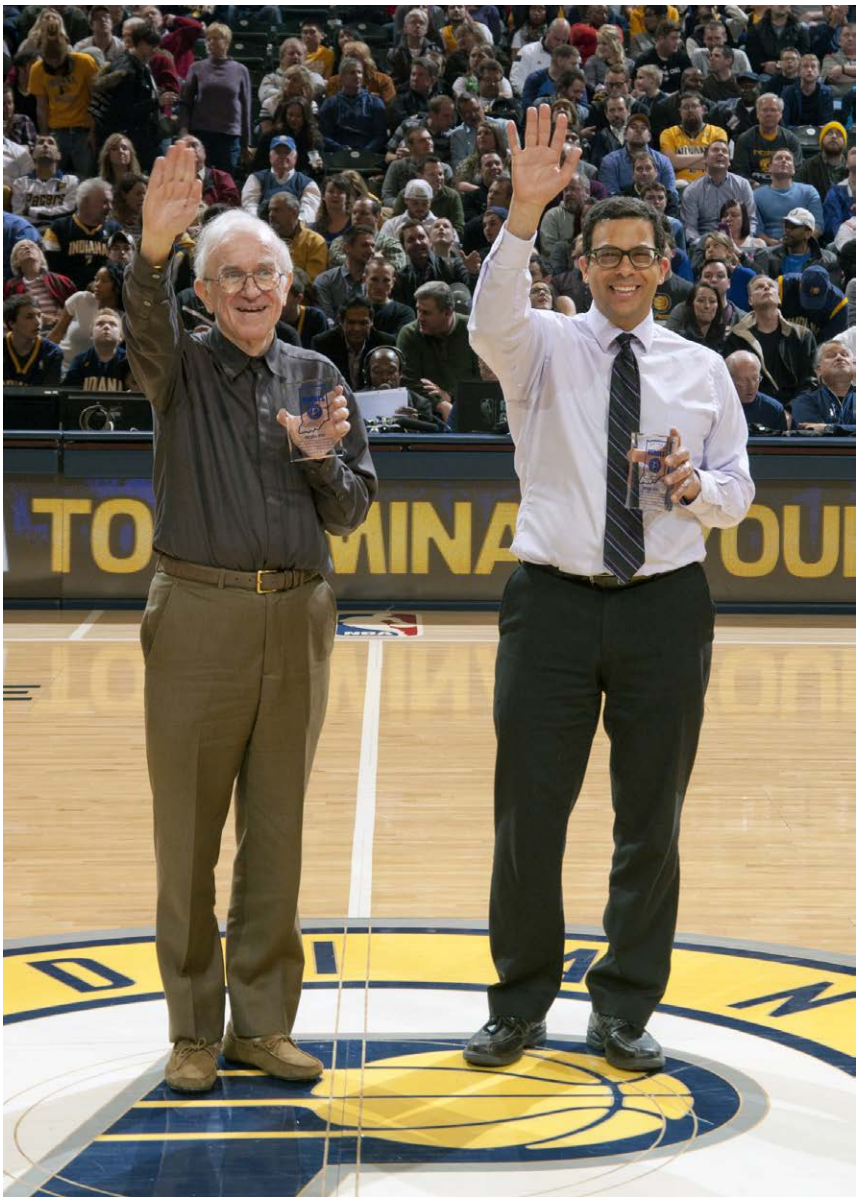
- David Olivos, PhD, "Mdm2 silencing promotes tumor-initiating cells in osteosarcoma and breast cancer;" **Lindsey Mayo**, PhD.
- Nicholas Pulliam, BS, "Novel combination therapy of DNMT inhibitor SGI-110 and PARP inhibitor BMN-673 for BRCA-proficient ovarian cancer;" **Ken Nephew**, PhD.
- Jason Kwon, PhD, "Pathophysiological role of microRNA-29 in pancreatic cancer stroma;" **Janaiah Kota**, PhD.

ACS Institutional Research Grant Competition; applications due May 1

This grant provides support for beginning investigators to enable them to initiate their independent research program. Applications are due May 1.
more>

April 9 town hall meeting: Personalized medicine; RSVP required

Personalized medicine is the topic of a town hall meeting from 11 am. to 1 p.m. Thursday, April 9 in Walther Hall, Room 303-305. **Bryan Schneider**, MD, associate director of the Indiana Institute for Personalized Medicine, will talk about personalized medicine for breast cancer. Lunch will be served. Seating is limited. Register to attend.



Drs. Lawrence Einhorn (left) and Nasser Hanna are recognized by the Indiana Pacers for their contributions to testicular cancer during the March 23 game. The Pacers' Indiana Heroes Award program honors individuals who have made an overwhelming impact on the lives of others, and who, through their commitment and humanitarian spirit, have made exceptional and lasting contributions to the community and state.

*Former Indiana University basketball standout Victor Oladipo (second from left) presents a $15,000 check to breast cancer research at the IU Simon Cancer Center. Now a guard with the Orlando Magic, Oladipo donated a share of his winnings from the Dunk Cancer social media fundraiser as part of the 2015 NBA All-Star Weekend. Accepting the check are **Richard Zellars**, MD, **Linda Han**, MD, and **Bryan Schneider**, MD.*

Walther palliative care program awards pilot grants

The Walther Program in Palliative Care Research and Education has awarded $50,000 pilot grants to the following cancer center members:

- **Debra Burns**, PhD, "Music Therapy Practice Characteristics and Patient Reported Outcomes."
- **Dr. Joan Haase**, PhD, "Communication Plan: Early through End of Life, Version 2).
- **Catherine Mosher**, PhD, "Perceptions of Symptom Importance and Interference in Metastatic Breast Cancer Patients: Preparation for Intervention Development."

160 women from Houston donate to Komen Tissue Bank

One hundred and sixty women from the Houston area participated in the recent breast tissue collection event there. The Lester and Sue Smith Breast Center at Baylor College of Medicine, Susan G. Komen Houston, and Houston Pink Ribbons Project teamed up with the Komen Tissue Bank at the IU Simon Cancer Center for the collection. The tissue bank is the only normal breast tissue bio-repository of its kind in the world. To date, more than 4,000 women have donated tissue and more than 10,000 women also have donated DNA and blood.

Form a team for Relay for Life

Join the American Cancer Society in the fight against cancer by participating in the Relay for Life of IUPUI. Relay for Life, the signature event of the American Cancer Society, brings together teams of individuals to celebrate and honor cancer survivors and to remember those that we have lost from this disease.

Relay for Life of IUPUI is 5 p.m. April 11 to 5 a.m. April 12 at the Taylor Courtyard. Following the survivor celebration at 7 p.m., there will be a special VIP lap to honor the research teams that made survivorship possible.

How can you help support the cause?

Start or Join a Team: Friends, family, and co-workers can form a team and participate in the event.

Attend the Event: Family and friends can enjoy free music and activities throughout the evening and purchase food and cancer awareness items to support the cause. We will highlight our research team at 7 p.m. and the festivities will extend into the night with a luminaria ceremony to honor cancer survivors and remember those lost to the disease.

Donate: Individuals can donate to the Relay for Life of IUPUI or a specific participant or team. To donate, visit www.relayforlife.org/IUPUIIN or call Lori at the American Cancer Society at (317) 344-7833.

Varmus leaves NCI

Harold Varmus earlier this month announced he is stepping down as director of the NCI. Read his letter to the NCI community.

Cancer center members in the news

Sunil Badve, MBBS, MD, presented the Vladimir-Totovic Lecture at the recent annual meeting of the International Academy of Pathology in Bonn, Germany. Badve also was presented with the Vladimir-Totovic Medal for Excellence in Pathology by the German Division of the International Academy of Pathology.

Patrick Loehrer, MD, director of the IU Simon Cancer Center, earned the Indianapolis Business Journal's Health Care Hero award in the "physician" category.

When **Sheri Robb** and **Debra Burns** first met as doctoral students at the University of Kansas, it's unlikely they imagined that their professional paths would cross nearly 20 years later as faculty members and researchers at IUPUI. more >

Haut

Paul Haut, MD, has been named interim president of Riley Hospital for Children, effective April 17. Haut currently is chief medical officer at Riley.

Ken Nephew, PhD, **John Turchi**, PhD, **Daniela Matei**, MD, and colleagues wrote "The novel, small-molecule DNA methylation inhibitor SGI-110 as an ovarian cancer chemosensitizer," which was published in Clinical Cancer Research.

The following members are presenting at this year's American Association for Cancer Research (AACR) Annual Meeting in Philadelphia, April 18-22.

Sunil Badve, MBBS, MD, and colleagues, "Knockdown of splicing factor ESRP1 affects multiple splicing factors."

Yunlong Liu, PhD, **Janaiah Kota**, PhD, and colleagues, “The role and therapeutic potential of miRNAs in colorectal liver metastasis.”

Murray Korc, MD, and colleagues, “TGF-beta promotes angiogenesis in an RB-deficient, Kras-driven mouse model of pancreatic cancer.”

Lindsey Mayo, PhD, and colleagues, “Defining the gain of function mutant PTEN.”

Lindsey Mayo, PhD, and colleague, “MDM2 silencing promotes tumor-initiating cells in osteosarcoma and breast cancer.”

Hari Nakshatri, BVSc, PhD, and colleagues, “Estradiol-inducible dependence receptor UNC5a restricts estrogen receptor activity and imparts estradiol dependence to breast cancer cells.”

Ken Nephew, PhD, and colleagues, “Novel combination therapy of DNMT inhibitor SGI-110 and PARP inhibitor BMN-673 (talazoparib) for BRCA-proficient ovarian cancer.”

Bert O’Neil, MD, **Safi Shahda**, MD, and colleagues, “Pancreatic adenocarcinoma: Comparative analysis of cancer stem cell markers between neoadjuvant and treatment naïve specimens.”

Prosperi

Jenifer Prosperi, PhD, and colleagues, “APC in breast cancer: the ABCs of gene expression.”

Milan Radovich, PhD, and colleagues, “Dual PI3K and Wnt pathway inhibition is a synergistic combination against triple-negative breast cancer.”

Bryan Schneider, MD, and colleagues, “Potential use of saliva and hair samples to identify genetic markers for anti-VEGF therapy.”

Jianjun Zhang, MD, PhD, and colleagues, “Dietary intake of phytoestrogens and the risk of prostate cancer in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial.”

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