

PASS IT ON

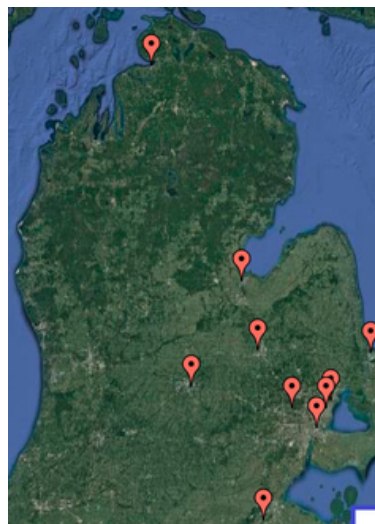
For Individuals and Families With a History of Cancer
Newsletter of the Cancer Genetic Counseling Service



ACCESS TO OUR GENETIC COUNSELING SERVICE HAS EXPANDED

THE KARMANOS CANCER GENETIC COUNSELING SERVICE IS NOW AVAILABLE AT THE FOLLOWING LOCATIONS:

- Karmanos Cancer Institute (KCI) - Detroit Headquarters
- KCI at Weisberg Cancer Center - Farmington Hills
- KCI at McLaren Flint
- KCI at McLaren Macomb
- KCI at McLaren Greater Lansing
- KCI at McLaren Bay Region
- KCI at McLaren Northern Michigan
- KCI at McLaren Port Huron
- KCI at The Toledo Clinic Cancer Center



We offer virtual (video or telephone) sessions at all sites and the option of in-person visits at both the Detroit and Farmington Hills locations. Find more information, including contact information and phone numbers for each site, at

karmanos.org/genetics

Self-Referrals are accepted at every location.

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LITERATURE REVIEW

SCIENTIFIC HIGHLIGHTS IN GENETICS

In this edition of the Cancer Genetic Counseling Service newsletter, we highlight a new article released from the Journal of Clinical Oncology Precision Medicine in June 2022. The article is titled "Germline Variant Spectrum Among African American Men Undergoing Prostate Cancer Germline Testing: Need for Equity in Genetic Testing" by Giri et al. This study was a collaboration between researchers and clinicians at Thomas Jefferson University and Ambry Laboratory. See below for more details!

ARTICLE TAKEAWAYS

Background: Guidelines for prostate cancer (PCA) genetic testing have expanded, with impact on clinical management and hereditary cancer assessment. African American (AA) men have lower engagement in genetic testing, with concern for widening disparities in genetically informed care. The researchers evaluated the range of genetic testing results in a cohort of men with prostate cancer enriched for AA men who underwent genetic testing to inform tailored care, treatment, and management strategies.

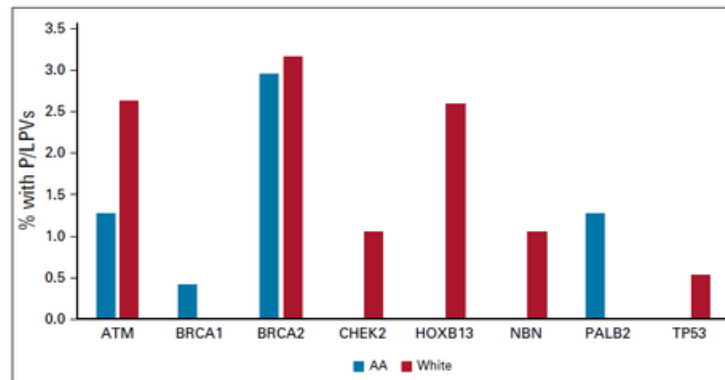
Methods: Participants included African American (n = 237; 56%) and White men (n = 190; 44%) with prostate cancer tested with a 14-gene panel: ATM, BRCA1, BRCA2, CHEK2, EPCAM, HOXB13, MLH1, MSH2, MSH6, NBN, PALB2, PMS2, RAD51D, and TP53.

Results: The data set included 427 men all tested using the 14-gene prostate cancer panel.

KEY FINDINGS:

- The overall positive pathogenic/likely pathogenic (P/LP) mutation rate was 8.2%
- Lower mutation rates were reported among African American men (5.91%) vs White men (11.05%); P = .05
- Rates of inconclusive variants of uncertain significance (VUS) were 25.32% (African American men) vs 16.32% (White men); P = .02
- Incidences of carrying multiple inconclusive VUSs were 5.1% (AA men) vs 0.53% (White men); P = .008
- The positive P/LP spectrum was narrower in African American men (BRCA2, PALB2, ATM, and BRCA1) than White men (BRCA2, ATM, HOXB13, CHEK2, TP53, and NBN).

FIG 1. Spectrum of germline P/LPVs among AA and White men. AA, African American.



Conclusions: Germline evaluation in a cohort enriched for AA men highlights the narrower spectrum of germline contribution to prostate cancer with significantly higher rates of multiple inconclusive VUSs in DNA repair genes. These results underscore the imperative to engage AA men in genetic testing, the need for larger panel testing in AA men, and the necessity to incorporate novel genomic technologies to clarify VUS to discern the germline contribution to PCA. Furthermore, tailored genetic counseling for AA men is important to ensure understanding of inconclusive VUS and promote equitable genetics care delivery.



Did you know that Karmanos Cancer Institute is actively recruiting male participants for a new study that aims to identify patients who may be at increased risk of developing prostate cancer?

Men may be eligible if:

- Age between 35-70
- No prior history of prostate cancer
- Family history of prostate, ovarian, or breast cancer

The prostate cancer risk program is led by our experienced genitourinary physicians at KCI.

If you would like more information, please contact Amanda Mladenovski at 313-576-9386.



GENE SPOTLIGHT: HOXB13

WHAT IS THE FUNCTION OF HOXB13?

The HOXB13 gene plays a key role in the development and maintenance of the skin and the prostate. HOXB13 is considered to be a tumor suppressor gene, meaning mutations in the gene may increase an individual's risk of developing certain cancers. HOXB13 is best known for the role it plays in hereditary prostate cancer, although research on possible associations with other cancer types is still ongoing.

HOXB13 AND PROSTATE CANCER

Individuals who are born with a harmful mutation in HOXB13 are at an increased risk of developing prostate cancer, including early onset cancer. Some studies suggest the risk to develop prostate cancer may be between 22%-52% for males who carry a HOXB13 mutation as compared to the general population risk of 10%.

CURRENT GUIDELINES RECOMMEND THAT MALES WITH A HOXB13 MUTATION BEGIN ANNUAL PROSTATE SCREENING AT AGE 40. SCREENING INCLUDES DIGITAL RECTAL EXAMINATION (DRE) & MEASUREMENT OF SERUM PROSTATE-SPECIFIC ANTIGEN (PSA).

WHO IS AT RISK?

Both males and females can carry mutations in the HOXB13 gene, though only males have a higher risk to develop cancer. HOXB13 mutations can affect individuals of any racial/ethnic background, but mutations have been more commonly found in individuals of European descent, specifically those with Scandinavian heritage. There is emerging evidence on a specific HOXB13 mutation being associated with an earlier age of prostate cancer onset in African-American men.



RISKS TO FAMILY MEMBERS

We have two copies of our HOXB13 gene, one comes from each parent. If someone carries a HOXB13 mutation, each of their children, siblings, and parents has a 50% chance of having the same mutation. Genetic testing for HOXB13 is available for individuals 18 and older.



INFOGRAPHIC CREATED BY MARYAM IJAZ

REMINDER: We offer annual virtual genetic counseling appointments for any individual who has a positive genetic testing result. These appointments give us the chance to update you regarding any new information learned about that gene.

Screening recommendations or known cancer risks may change over time. In addition, it gives us the opportunity to update your family history, review the importance of testing your relatives for your cancer gene mutation, and help facilitate such testing for your family members.

You can call us at 313-576-8748 to schedule your annual Genetics follow-up appointment!

This award recognizes and pays tribute to genetic counselors who provide exceptional and irreplaceable care to families dealing with major health challenges.

Patients & caregivers are invited to nominate genetic counselors by answering a few questions. Selected genetic counselors may be honored during the NSGC annual conference in October.

Last year, our very own Nancie Petrucelli was nominated by patient, Jennifer Traub. Nancie provided genetic counseling services to Jennifer's family over a 20-year span. Jennifer shared the following about her experience, "...I am 100 percent confident that I would not even be here today, or in as good health as I am, had it not been for the information that I got from genetic counseling."



Read more about this heartwarming story at www.bit.ly/3Y42gan



To nominate a genetic counselor, please visit GC-heart.com or scan the QR code.

Be sure to nominate your genetic counselor by May 31.