Deadline Reached

The deadlines for abstract submissions and modifications for this program have been reached.
View Submission (no changes allowed.)

Printable receipt.

Abstract #179589

Gender disparity: Overlooking hereditary prostate cancer.

Lauren Bowling, Carin Espenschied, Michelle Jackson, Bryan Mak, Holly LaDuca; Ambry Genetics, Aliso Viejo, CA

Abstract Text:

Background: Prostate cancer (PC) has been associated with germline mutations in several genes, most often *BRCA2*. Recently, 11.8% of men with metastatic PC were found to have germline mutations in *BRCA* and other DNA-repair genes. These mutations are equally inherited by men and women, both have elevated cancer risks, and National Comprehensive Cancer Network (NCCN) testing and management guidelines exist for male and female carriers. Despite this, over 95% of patients who have hereditary cancer multi-gene panel testing (MGPT) are women. We sought to describe detection rate and mutation spectrum of MGPT in men with PC compared to women with breast cancer (BC). **Methods:** Test results were reviewed for PC patients and female BC patients who had MGPT (Jun 2013 – May 2016) for up to 49 genes. Clinical history was obtained from test request forms. **Results:** Of 654 PC probands, 100 germline mutations were identified in 93 men (14.2%), significantly more than women with BC (8.6%; 6,215/71,728; p = 2.5e-5). Most mutations in PC patients were in *BRCA* (40.9%), followed by *ATM* (20.4%), *CHEK2* (15.0%) and Lynch syndrome-associated genes (9.7%). Of the 100 total mutations, 94% were in genes that would impact management recommendations for them and/or their relatives. The median time from PC diagnosis to MGPT was 6 years, compared to 1 year for female BC. Nearly 57% (53/93) of mutation-positive men had multiple primary cancers, 79.2% of which had PC first. Of *BRCA* positives with multiple primaries (n = 21), over 90% developed PC followed by subsequent cancers, yet testing was not initiated until another cancer developed. **Conclusions:** In this cohort of men with PC, MGPT identified germline mutations at significantly higher rates than females with BC. Furthermore, 59.1% (55/93) of mutation positive PC probands had *BRCA* and/or *ATM,* making them possibly eligible for a PARP-inhibitor clinical trial. Unfortunately, time from PC diagnosis to MGPT was several years longer than women, allowing many to develop subsequent cancers that may have been prevented or detected earlier with knowledge of the germline mutation. Increased awareness among clinicians is needed to identify more male mutation carriers to enable appropriate cancer risk management for themselves and their relatives.

Title: Gender disparity: Overlooking hereditary prostate cancer.
Submitter's E-mail Address: lbowling@ambrygen.com

Is this a late-breaking data submission? No
Is this abstract a clinical trial? No
Would like to be considered for a Merit Award: No
First Author Membership: Non-Member

Have the data in this abstract been presented at another major medical meeting? Yes
Meeting: ASCO Annual Meeting 2016
Updates to Data: This cohort contains results on almost twice the number of probands as the first cohort (n = 360 vs. n = 654). This abstract also describes the percentage of mutations that would impact clinical management recommendations as well as potential eligibility for PARP-inhibitors - results that were not discussed in the prior abstract.

Has this research been submitted for publication in a medical journal? No

First Author

Presenting Author
Corresponding Author
Lauren Bowling, MS, CGC
Ambry Genetics
15 Argonaut
Aliso Viejo, CA 92656
Email: LBowling@ambrygen.com

Click to view Conflict of Interest Disclosure

Second Author

Carin Espenschied
Ambry Genetics
Aliso Viejo, CA
Email: CESPENSCHIED@AMBRYGEN.COM

Click to view Conflict of Interest Disclosure

Third Author

Michelle Jackson
Ambry Genetics
Aliso Viejo, CA
Email: Mjackson@ambrygen.com

Click to view Conflict of Interest Disclosure

Fourth Author

Bryan Mak
Ambry Genetics
Aliso Viejo, CA 10596
Email: bmak@ambrygen.com

Click to view Conflict of Interest Disclosure

Fifth Author

Holly LaDuca, MS, CGC
Ambry Genetics

Aliso Viejo, CA
Email: HLADUCA@AMBRYGEN.COM

Click to view Conflict of Interest Disclosure