Provider Knowledge and Practice Needs Regarding Germline Testing for Inherited Prostate Cancer

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Background. Germline genetic testing for inherited prostate cancer is rapidly rising, with increasing testing capability and expanded guidelines. Providers involved in the care of men with prostate cancer are increasingly considering genetic testing to inform precision therapy or management, requiring an understanding of genetic tests and implications of results. This pilot study was performed to explore knowledge of genetic assessment for inherited prostate cancer and practice needs to inform tailored education approaches for prostate cancer providers.

Methods. A 12-question structured survey was developed that encompassed seven practice-related questions and five questions regarding knowledge of genetic contribution to prostate cancer risk and family history intake. Questions were all multiple choice with the option to provide additional information as free-response for specific questions. The survey was administered at two community-based provider educational events (December 2017 and March 2018) in the Philadelphia area as well as the Mid-Atlantic AUA meeting (March 2018) prior to delivery of an educational session on prostate cancer genetics.

Results. Overall, 56 providers responded to the survey. The majority of respondents were urologists (50%) followed by medical oncologists (27%). Thirty-eight percent were in practice >20 years. Institutional setting was reported as academic (46%) and private practice (23%). Regarding consideration of genetic testing for prostate cancer patients, 50% responded "sometimes", 21% responded "never", and 14% responded "always". Regarding family history intake, 82% responded paternal family history was important and 66% responded that maternal family history needed consideration. Response to which genes predispose to inherited prostate cancer was: *BRCA2* (77%), *BRCA1* (55%), *TP53* (32%), DNA MMR genes (27%), *HOXB13* (21%), *PALB2* and *CHEK2* (16% each), and *ATM* (13%). Regarding genetic contribution to aggressive prostate cancer, 43% indicated *BRCA2* and 41% indicated *BRCA1*. While the majority of respondents indicated that discussion of risks/benefits/limitations of genetic testing was important to discuss with prostate cancer patients (75%), fewer felt it necessary to discuss the implications of genetic results with family members (55%) or to discuss genetic discrimination laws (45%). Regarding ways to streamline the identification of patients with prostate cancer for genetic consultation, responses included: access to an expert cancer genetics program (54%), use of a family history collection tool (54%), educational updates regarding prostate cancer genetics (48%), and smartphone app (23%).

Conclusions. This pilot study identified knowledge areas to address, specifically greater understanding of the expanded genetic contribution to inherited prostate cancer and aggressive disease, importance of maternal family history, and comprehensive pretest discussion. Practice needs include access to cancer genetics services, streamlining identification of men with prostate cancer for genetic testing, and cancer genetic updates. Efforts in the Philadelphia region are underway to engage community providers and develop tailored approaches for cancer genetic education delivery.

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