Genetics

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A summary and review of

“Genetic prostate cancer risks identified for men of African descent”

The article titled “Genetic prostate cancer risks identified for men of African descent” from the Washing Post, describes some of the information that has come to light regarding disparities in the number of occurrences of prostate cancer in people of African descent when compared to those of other racial backgrounds. The article references a scientific article titled “Evidence of Novel Susceptibility Variants for Prostate Cancer and a Multiancestry Polygenic Risk Score Associated with Aggressive Disease in Men of African Ancestry” published in Scientific.

The article states that one of the main issues when studying prostate cancer from a genetic standpoint is that most of the populations that have been studied have historically been those of European descent. In the study referenced by the article, 10 studies were reviewed by researchers, of which contained genetic information of over 80,000 individuals of African descent. Roughly 19,000 men with prostate cancer were compared with around 61,000 healthy men. Nine new genetic variants that are now associated with prostate cancer risk were discovered. Of those 9 variants, 7 were found most or even exclusively in men who are of African descent. Most notably, a variant in the 8q24 region of the genome in humans, was shown to appear only in men of African descent.

The second half of the article describes the application for the data collected from this review, and how it could be used to potentially develop methods to identify those with increased risk of developing prostate cancer. The researchers eventually developed a system to score individuals on how likely they were to develop aggressive and non-aggressive prostate cancers. With this information, scientists are hoping that they can develop methods to screen men when determining prostate cancer risk, and further examine the causes that drive the disparities between prostate cancer rates between men of African descent and other races.

An article published by the National Library of Medicine titled “Genetic susceptibility to prostate cancer in men of African descent: implications for global disparities in incidence and outcomes” corroborates the information shared in the Washing Post article and highlights many of the same key points when it comes to difference on prostate cancer rates among different races. It states that “While rates of prostate cancer are high in Europe and North America, the incidence of prostate cancer is highest among men of African descent in North America and the Caribbean. African American men are at particularly high risk for prostate cancer. Recent SEER data (2006) indicate that the incidence of prostate cancer in African American men is higher than in any other group, with an age-adjusted incidence of 255.5 per 100000 versus 161.4 per 100000 in European Americans.” (Zeigler-Johnson et al.)

The article also describes the genomic factors that contribute to prostate cancer risk in those of African descent, stating “Genotypes involved in prostate cancer etiology differ significantly across ethnicities. For example, the allele frequencies in candidate prostate cancer susceptibility genes such as CYP3A4 and SRD5A2 differ substantially by ethnicity. We have reported a 4-5-fold higher rate of this CYP3A4 variant in African Americans relative to European Americans.” (Zeigler-Johnson et al.)

The Washington Post article was overall well written and easily disseminated the information about the scientific study in question in a very concise and easy to digest way. The data described was accurate and backed up by numerous scientific reviews and the conclusions it drew were consistent as well with the current scientific literature concerning the rates of prostate caner among men of African descent.

Bibliography

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