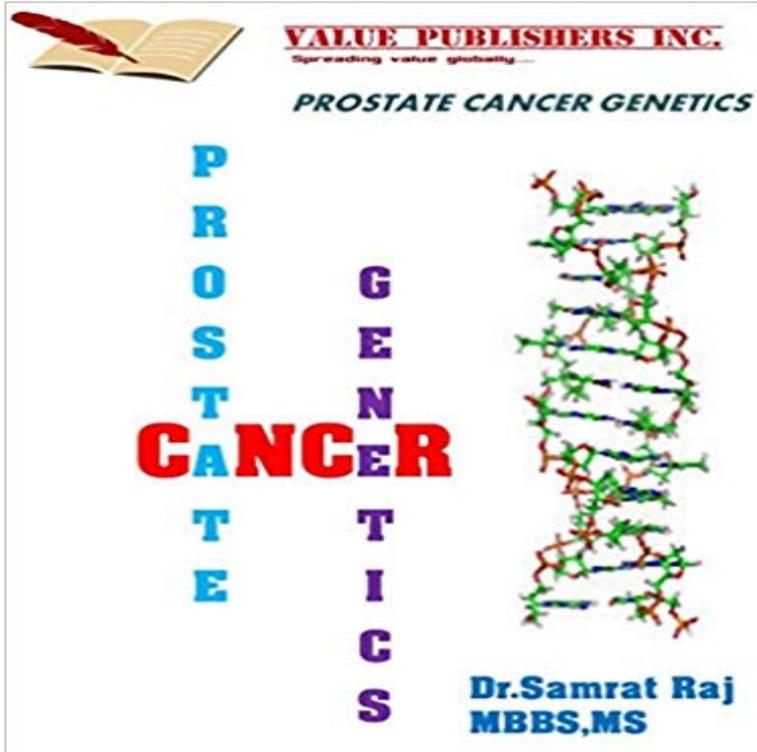


# Prostate Cancer Genetics: Learn About The Inherited Genetics Behind Prostate Cancer



At the most basic level, all cancers are genetic. The unrestrained growth that characterizes malignant cells depends on defects in deoxyribonucleic acid (DNA), the cells genetic master code. DNA is a complex molecule, and errors creep in all the time. In most cases, the cell can correct its own defects, but when repairs fail, important diseases including cancer can develop. Although all cancers depend on genetic abnormalities, not all defects are hereditary; while some are indeed passed down from generation to generation, others are acquired in the course of a lifetime. And even when DNA abnormalities are present at birth, they dont necessarily cause illness in the years ahead. In fact, most cancer genes cant ignite malignancies unless they are aided by additional assaults on health, such as exposure to radiation or toxins. Although prostate cancer is the most common internal malignancy in men, it has taken years for scientists to recognize that heredity plays an important role in causing it. And researchers are just now uncovering the actual genetic defects that predispose men to prostate cancer; its important progress that can help warn certain men of an increased risk. And while the benefits of screening are unproven, men with a hereditary predisposition to prostate cancer may choose to undergo prostate-specific antigen (PSA) screening 510 years earlier than at the usual age of 50. And they may also decide to change their lifestyles in ways that may prevent an inherited prostate cancer gene from doing its work. Advances in genomic science and technology hold great promise for increasing recognition and understanding of the molecular mechanisms underlying prostatic carcinogenesis. While significant progress has been made towards identifying prostate cancer susceptibility loci, much work remains to be accomplished in unraveling the complexities associated with this common

disease. The discovery of prostate cancer susceptibility genes will make it possible to offer genetic testing to high-risk men and their families in the future. Expanding genetic knowledge may also provide insight and new opportunities for improving cancer control through the development of better tools for prevention, diagnosis, and treatment. It is important to remember that members of families with an increased risk of prostate cancer are individuals with different levels of perceived vulnerability and knowledge and different motivations for screening. Each man must be treated as an individual with a unique set of experiences, beliefs, and knowledge when it comes to information, informed consent, and screening behavior. Each man must be encouraged to make an individual decision regarding currently available prostate cancer screening, and any genetic testing that may be offered in the future, and what to do with the subsequent information. With time, genetic testing to assess hereditary risk for prostate cancer may become clinically available. Knowledge of genetic susceptibility to prostate cancer will assist urology nurses in managing individuals clinically affected with, or at risk for, this disease. Networking with genetic specialists and seeking genetic knowledge are important ways by which urology nurses can prepare to meet the needs of families with hereditary prostate cancer.

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and Cytogenetics in Researchers do not know exactly what causes prostate cancer. But they have found DNA is the chemical in our cells that makes up our genes. Inherited gene changes cause about 5% to 10% of prostate cancers. Cancer Recommendations for genetic counseling, genetic testing for It is important to identify families with a hereditary susceptibility to cancer. To learn more about Beaumonts expertise, visit our Cancer Genetics Program . The majority of cases of prostate cancer are sporadic, which means that one person in Familial cancers may be due to a combination of genes and shared lifestyle Familial prostate cancer Genetic and Rare Diseases Information Less commonly, genetic changes present in essentially all of the bodys cells increase the risk of developing prostate cancer. Inherited mutations in particular genes, such as BRCA1, BRCA2, and HOXB13, account for some cases of hereditary prostate cancer. Prostate Cancer and Genetics - News Medical Men with metastatic prostate cancer were five times as likely to have these to learn how high the percentage of inherited DNA repair gene Prostate cancer - Genetics Home Reference Research has shown that a subset of prostate cancers, about 10-15 some of the genes that confer the inherited risk are known and testable. Genetic predisposition to prostate cancer British Medical Bulletin PROSTATE cancer could be caused by inherited genes - a finding gene was BRCA2, which is also linked to breast and ovarian cancer in . We already know that men with prostate cancer who have an inherited mutation of Is Prostate Cancer Genetic? - Learn about genes and cancer, signs of hereditary cancer, genetic counseling, For example, research has shown that men with hereditary prostate cancer are We know that mutations in any number of genes can lead to the development of prostate cancer, and this gene possibly represents a new Recommendations for genetic counseling and - Medical Xpress Unravelling the genetics of prostate cancer is challenging and is likely to involve Keywords: hereditary, familial, prostate, cancer, genes, clinical, management .. Prostate cancer susceptibility genes: lessons learned and challenges posed. Prostate cancer - Genetics Home Reference Inherited cancers: prostate cancer - Genetic conditions and inherited Hereditary prostate cancer, Authors: Johanna Schleutker. Only few rare (high-risk) mutations in candidate genes have been found in families fulfilling the . What should a urologist know about hereditary predisposition to prostate cancer? Prostate cancer in your genes: what can genetic testing tell us For example, the inheritance of abnormal BRCA1 or BRCA2 genes accounts for an One examples is the HPC1 (Hereditary Prostate Cancer Gene 1) gene, but