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Review Article

Molecular genetic, diagnosis, prevention and gene therapy in prostatic cancer: review article

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Abstract:

The prostate is a small gland located below the bladder and upper part of the urethra. In developed countries prostate cancer is the second common cancer (after skin cancer), and also the second leading cause of cancer death (after lung cancer) among men. The several studies have been shown prostate cancer familial aggregation. The main reason for this aggregation is inheritance included genes. The family history is an important risk factor for developing the disease. The genes AR, CYP17, SRD5A2, HSD3B1 and HSD3B2 are all intimately involved in androgen metabolism and cell proliferation in the prostate. Each shows intraspecific polymorphism and variation among racial-ethnic groups that is associated with the risk of prostate cancer. Some of genes expressed in the prostate are in association with the production of seminal fluid and also with prostate cancer. Epigenetic modifications, specifically DNA hypermethylation, are believed to play an important role in the down-regulation of genes important for protection against prostate cancer. In prostate cancer numerous molecular and genetic aberrations have been described. It is now well established that cancer cells exhibit a number of genetic defects in apoptotic pathways. In this review article, the most recent data in molecular genetic, prevention and especially gene therapy in prostate cancer are introduced.

Keywords:

Molecular genetic ، diagnosis ، prevention ، gene therapy ، prostate cancer

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