

Prostate cancer: Pathophysiology, Diagnosis, and Prognosis

Abstract

Prostate cancer is more common in the western countries, least common in Asia, and the leading cause of cancer deaths in males worldwide. Individuals who have first-degree family members with prostate cancer have double the risk of getting disease. Risk factors for prostate cancer include family history, genetics, diet, medication, infectious disease and sexual factors. Published animal research studies indicate that basal cells developed cancerous tumors, which appeared identical to human samples. Initially adenocarcinoma a condition known as carcinoma in situ or prostate intraepithelial neoplasia (PIN). Although there is no proof that PIN is a precursor, it is closely associated with cancer. Prostate cancer is associated with urinary dysfunction. Advanced cancer can spread to other parts of the body, i.e. Vertebrae, pelvic, or ribs, also compress the spinal cord, causing tingling leg weakness and urinary and fecal incontinence. Diagnosis by digital rectal examination (DRE), biopsy, Gleason score, and TNM staging (Tumor/nodes/metastasis) and by tumor markers. Management options best depends on the stage of the disease, the Gleason score and PSA level. If radiation fails then surgery may not be feasible, and radiation after surgery failure may have complications, associated with small increase in bladder and colon cancer. Prognostic indicators of disease outcome are stage, pre-therapy PSA level and Gleason score, higher the grade, and the stage poorer the prognosis. Information on the relationship of diet and prostate cancer is poor. American Urological Association (AUA) recommends screening in those of 55 to 69, no more than every two years.

PDF | On May 30, 2018, Gustavo Ferreira Simoes and others published An Overview on Prostate Pathophysiology: New Insights into Prostate Cancer Clinical Diagnosis | Find, read and cite all the research you need on ResearchGate. Although several of these new biomarkers have been recommended by different guidelines, large prospective and comparative studies are necessary to establish their value in PCa detection and prognosis. View. Show abstract. Prostate cancer occurs when the cells in the prostate begin to grow uncontrollably. Sometimes, prostate cancer develops quickly and spreads to other organs, or metastasizes. Most often, prostate cancer spreads to the adrenal gland, bones, liver, and lungs. In this article, we explain how prostate cancer spreads and how it affects the body. Once a doctor makes a diagnosis of prostate cancer, complications from metastasis will depend on where the cancer spreads to, and how quickly it is growing. For example, a person with prostate cancer that has spread to nearby lymph nodes may not experience any change in symptoms. When prostate cancer metastasizes to the following areas, it can cause a range of complications. Importance: Prostate cancer is the most common cancer diagnosis made in men with more than 160 000 new cases each year in the United States. Although it often has an indolent course, prostate cancer remains the third-leading cause of cancer death in men. Observations: When prostate cancer is suspected, tissue biopsy remains the standard of care for diagnosis. However, the identification and characterization of the disease have become increasingly precise through improved risk stratification and advances in magnetic resonance and functional imaging, as well as from the emergence of biomarkers. Whether prostate cancer is suspected based on screening tests or symptoms, the actual diagnosis is made with a prostate biopsy. Other types of tests might be done if cancer is found. Learn more here. Most men without prostate cancer have PSA levels under 4 ng/mL of blood. Still, a level below 4 is not a guarantee that a man doesn't have cancer. Men with a PSA level between 4 and 10 (often called the "borderline range") have about a 1 in 4 chance of having prostate cancer. If the PSA is more than 10, the chance of having prostate cancer is over 50%. If your PSA level is high, you might need further tests to look for prostate cancer. Prostate Cancer definition, Diagnosis and Staging, Differential Diagnosis, Treatment and Management. The prognosis for prostate cancer depends on the histologic grade of the tumor, the PSA level, and whether it is confined within the prostate gland. Once the tumor penetrates the capsule and involves adjacent tissues or lymph nodes, eradication is unlikely. The Gleason system is most commonly used to grade the tumor histology.