Prostate Adenocarcinoma Diagnosis and Management

Prostate cancer is the most prevalent cancer in men behind lung cancer. The diagnostic workup may include elevated prostate-specific antigen (PSA) levels, digital rectal examination (DRE), prostate biopsy, or imaging such as CT or MRI. Management strategies include observation, surgical resection, radiation therapy, and anti-androgen agents. Prostate adenocarcinoma is known to metastasize early, most commonly to the spine. Other complications include erectile dysfunction and urinary incontinence.

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Diagnostic Workup

Increased Prostate Specific Antigen (PSA)
Up-Arrow Prostate-plum Ant-gem
Prostate-specific antigen (PSA) is used as a screening test and marker for prostate cancer recurrence. It is important to exclude other possible causes of increased PSA such as prostatitis and benign prostate hyperplasia. Although somewhat controversial, PSA levels above 7 ng/mL are usually grounds for referring the patient to a urologist for further investigations.

Digital Rectal Examination (DRE)
Digital Rectum-rectangle Exam
Digital rectal examination (DRE) helps to differentiate BPH from prostate adenocarcinoma. BPH has symmetrical enlargement and usually no nodules. Prostate adenocarcinoma presents with considerable nodularity, asymmetry, or induration.

Biopsy
Biopsy-needle
A prostate biopsy may be required if diagnosis is uncertain or for histologic scoring by the Gleason system. This is performed via transrectal ultrasonography (TRUS).

CT or MRI
Cat-scanner and M-R-eyes Machine
CT or MRI of the abdomen/pelvis will help determine the presence of prostate adenocarcinoma and other findings. These may include urinary obstruction, liver metastasis, extracapsular extension, and abnormal lymph nodes. MRI is used to evaluate for extracapsular extension.

Management

Observation
Observatory
Observation, also known as watchful waiting and active surveillance, is an option for treating prostate adenocarcinoma. This is indicated for small and slow growth carcinoma, asymptomatic, or low Gleason score (usually 6 or less). If the patient is at an advanced age or has significant comorbidities that put life expectant at less than 10 years, then symptomatic treatment is usually offered. Otherwise, active surveillance can involved regular follow-up appointments with PSA and/or DRE.

Surgery
Surgeon
The main surgical indication for prostate adenocarcinoma is localized disease i.e. no extracapsular extension or metastasis. In a radical prostatectomy, several adjacent organs are removed along with the prostate gland e.g. seminal vesicles, vas deferens. Lymph nodes are also excised.

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Radiation Therapy

Radiation-radio

Radiation is useful in treating prostate adenocarcinoma. Therapy is commonly given for 4-36 months and is based on the risk group of the patient. Several methods of delivering radiation doses may be used including external beam radiotherapy (EBRT) and brachytherapy.

Anti-androgen Agents

Ant-tie and Android-genie

Anti-androgen agents are used in treating prostate adenocarcinoma, which may include continuous leuprolide (GnRH analog) or degarelix (GnRH antagonist). These can be combined with flutamide (a nonsteroidal competitive inhibitor at androgen receptors). Androgen blockade helps to reduce stimulation of prostatic tissue and thus decrease cancer growth.

Considerations

Metastasis

Metastasis-mitt

Prostate cancer metastasis can be a severe complication of this disease. An older adult with progressive low back pain and elevated alkaline phosphatase levels is likely to have spinal metastasis. This occurs via Batson's venous plexus. Other metastatic sites include the lungs, adrenal glands, and liver.

Erectile Dysfunction

Erect-building Dysfunctioning

Healthcare providers should be wise in choosing the management of prostate adenocarcinoma due to significant side effects that may occur. Erectile dysfunction can occur as a complication of radical prostatectomy, especially with non-nerve-sparing surgeries. This complication can also can occur from other therapies, including radiation therapy.

Urinary Incontinence

Urine In-continents

Urinary incontinence is another complication from treatment of prostate cancer. Radical prostatectomy may damage urethral structures and increase the risk of inguinal hernias.

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