key points

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Prostate cancer is the most common cancer in men with more than 35,000 new cases diagnosed annually and almost 10, 000 deaths from the disease. In general, the earlier prostate cancer is detected, the better the outlook for the patient in terms of cure or arresting cancer progression.

PSA measurement is currently the most effective single screening test for early detection of prostate cancer. Approximately 25% of men with PSA levels above the normal range (≥ 4 ng/ml) have prostate cancer, and the risk increases to more than 60% in men with PSA levels above 10 ng/ml.

The PCA3 is an adjunct to the PSA measurement. A PCA3 value of greater than 35 indicates an increased risk that the prostate harbours a malignancy. This marker may also be useful in differentiating men with clinically significant tumours from those with low-risk cancers which can be managed conservatively.

Transrectal ultrasonography is used to image the prostate gland and direct the biopsy needle. A total of 8-14 biopsies are taken from different regions under local anaesthesia and with antibiotic cover. Histological analysis provides a Gleason score for each core. The higher the Gleason score, the greater the risk of prostate cancer progression and metastasis.

MRI is widely used to stage prostate cancer locally and to diagnose or exclude lymph node metastases. Radionuclide bone scanning is usually performed as a baseline assessment at the time of the initial diagnosis of prostate cancer with bone metastases showing up as "hot spots" affecting the vertebrae, pelvis or long bones.

The aim of active treatment in patients with localised prostate cancer is usually cure – whether eliminating the tumour or preventing death from prostate cancer (as opposed to death with prostate cancer).

Radical prostatectomy is most appropriate for cases where it is believed the tumour can be removed completely by surgery and in patients with no comorbidity. Long-term studies have shown normal life expectancy in those with complete excision of specimen-confined disease. Radiotherapy offers a particular advantage in patients who are unsuitable for surgery because of comorbidity or evidence of extraprostatic extension of cancer.

Active surveillance is usually reserved for men with small volume and low-to-moderate grade prostate cancer, who have a low risk of death from the disease. Careful follow-up and repeat biopsy is essential to assess possible progression of cancer.