EARLY PROSTATE CANCER: ACTIVE SURVEILLANCE

Definitive treatments for prostate cancer (radical prostatectomy and external beam/brachy radiotherapy) are associated with side effects, particularly on bladder, bowel and sexual function. It is well known and commonly said that many men die WITH prostate cancer, not FROM it. Therefore, men unlikely to develop progressive and symptomatic disease, unlikely to die from prostate cancer, are better monitored without immediate treatment, a program called active surveillance, avoiding or delaying treatment side effects. Definitive treatment may be done once there is evidence the cancer is progressive and there is a risk of dying FROM it.

PSA levels of 4-10ng/ml usually reflect underlying BPH (benign prostate enlargement) rather than prostate cancer, and PSA may fluctuate test to test, but overall should remain relatively stable over time.
Patients with BPH may have lower urinary symptoms of poor flow, frequency and nocturia. These symptoms are not associated with early prostate cancer.

WHAT DOES ACTIVE SURVEILLANCE INVOLVE?
There are several internationally standardised programs for active surveillance. A version of active surveillance endorsed by the Urological Society of Australia and New Zealand is the PRIAS protocol https://www.prias-project.org/
The program recommends:

- 3 monthly PSA ;
- Periodic prostate examination ; and
- Repeat MRI scan **and** prostate biopsies at 1, 4, 7 and 10 years after diagnosis, and subsequently every 5 years after diagnosis.

WHO SHOULD HAVE ACTIVE SURVEILLANCE?
Men recommended for active surveillance generally have low PSA levels, normal-feeling prostates on examination, and small volume low grade prostate cancer on biopsies.
Active surveillance therefore involves monitoring each of these measurements, with regular PSA testing and intermittent prostate examinations, and periodic repeat prostate biopsies and / or MRI scans.
Active surveillance is ideally suited to patients who have had MRI scan and:
whose initial biopsies are ISUP 1or 2 (Gleason 3+3 or 3+4) and small volumes of cancer in the biopsy cores;
whose PSA is below 10ng/ml; and
whose PSA doubling time is longer than 3 years.
The number of positive cores is no longer considered critical for ISUP 1 (Gleason 3+3) disease.
A normal appearing MRI scan is also favourable.
Gleason score 3+4 without invasive cribriform and intraductal carcinoma is suitable if the number of positive cores is ≤ 50%.

WHO SHOULD CONSIDER UP-FRONT TREATMENT?

Patients with:
higher volumes of cancer on biopsy;
a component of Gleason 4 disease ISUP 2 or greater;
an abnormal MRI scan;
an abnormal-feeling prostate on examination, and
progressively rising PSA levels
have intermediate risk prostate cancer.
Up-front earlier treatment, accepting the potential treatment side effects, should be considered weighed against other potential health issues, life expectancy and goals of care.
nzRISK https://nzrisk.com is an on-line pre-operative risk prediction tool. It has been developed and validated for patients in New Zealand over the age of 18, to help patients and doctors balance benefits and risks of treatment.

WHAT ARE THE OUTCOMES?

Most patients beginning active surveillance remain on this program and do not develop more significant prostate cancer.
In general, once a man is diagnosed with prostate cancer, it becomes apparent within the first few years of active surveillance if this strategy is appropriate, or if the cancer is likely to progress and definitive treatment is a more suitable option.
Up to 25% of patients initially recommended to active surveillance will convert to definitive treatment, within 6 years.
Cancer progression is recognised from serial MRI scans showing progressive changes in the prostate or higher volume and higher grade disease on repeat biopsies.
A progressively rising PSA or an abnormal feeling prostate on rectal examination would also prompt review and consideration of a switch to definitive treatment.

There is unfortunately a small risk of significant cancer progression to metastatic disease whilst on active surveillance (<3% men at 6 years after diagnosis), and the opportunity of cure by definitive treatment is then lost. These men would then most commonly be offered delayed hormone manipulation (medical or surgical castration) to cause the cancer to regress.
Even patients treated with early definitive treatment, rather than active surveillance, there are some who will not be cured and who will suffer disease recurrence and metastases, requiring delayed hormone manipulation.
As such, it is difficult to accurately quantify the risks of active surveillance compared to immediate up-front treatment.