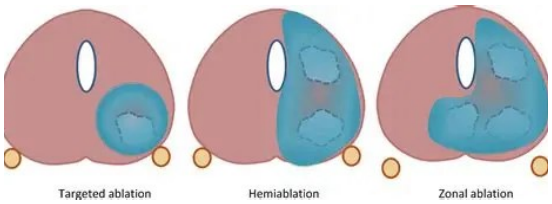
Focal Therapy for Localized Prostate Cancer

URO-JO

Happy prostate, Happy man

Focal therapy is an emerging treatment modality for prostate cancer that aims to spare patients treatment-related side effects including erectile dysfunction and urinary incontinence associated with surgery and radiotherapy, which are the current standards of care. Focal therapies have been available for many years in various forms while others are emerging. There are ongoing clinical trials exploring how effective and safe focal therapies are, and what their side effects are compared to current treat-



Whole-gland therapies such as radical prostatectomy (RP) and radiotherapy with androgen deprivation therapy remains the treatment paradigm for intermediate- and high-risk prostate cancer patients. However, recent data have also shown that although these treatments reduce cancer progression and metastases development when compared to AS, they might not result in a mortality benefit at 15 years of follow-up. Therein lies the potential of prostate cancer focal therapy (FT), a minimally invasive, prostate-sparing modality of treatment, which aims to maintain oncological outcomes while sparing patients the significant morbidity associated with whole-gland treatment such as erectile dysfunction, bowel dysfunction, urinary incontinence and decreased quality of life. FT therefore aims to treat the prognosis-determining index lesion while sparing healthy tissues and avoiding comorbidities that significantly affect quality of life.

FT represents a collective term encompassing a wide range of energy modalities including high-intensity focused ultrasound **(HIFU),** irreversible electroporation **(IRE),** focal laser ablation **(FLA),** photodynamic therapy, cryoablation, brachytherapy, radiofrequency ablation and prostatic artery embolisation. Of these energy modalities, the most frequently used and available FTs for prostate cancer in Australia include HIFU, cryotherapy, IRE and FLA. The later 2 will be highlighted.

At present, FTs in Australia are only accessible through the private healthcare system or in clinical trial settings, but not through the public healthcare system.

Knowledge of FTs as an emerging alternative to whole-gland therapy for appropriately selected patients with prostate cancer, available energy modalities and potential adverse effects are valuable for general practitioners (GPs) managing patients with prostate cancer. This will facilitate initial discussions regarding treatment, and to identify potential side effects or psychosocial distress during follow-up. GPs are also vital in ensuring patients adhere to surveillance protocols and specialist appointments and are not lost to follow-up

Irreversible electroporation (IRE)

What is it?

Electroporation involves the creation of nano-sized pores in cell membranes through the application of an electrical current.

How is it done?

IRE systems involve a generator that delivers high-voltage electric current between electrodes placed transperineally, which surrounds the cancerous lesion.

Benefits

In an Australian study with five-years median follow-up, cancer-specific and overall survival was 100%, with failure-free survival rates of 83%.

Side effects

IRE was performed as a day-case procedure in this study, with patients discharged home with an indwelling catheter removed on day 5.

RACGP - AJGP (Australian Journal of General Practice)

Focal Therapy | PCFA

Focal laser ablation (FLA)

What is it?

The use of laser energy for tumour ablation was first proposed in 1983 with the principle that laser light absorbed by tissues is converted to thermal energy, resulting in coagulation and tissue destruction.

How is it done?

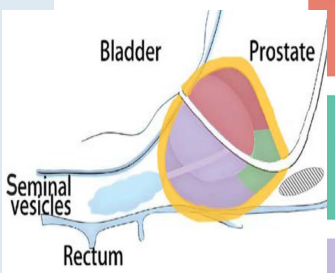
FLA can be performed transrectally or transperineally with treatments delivered via a surgical diode laser. A day-case cooled focal laser therapy (CFLT) system

Benefits

In a clinical trial in Sydney, Australia, with three-years median follow-up, showed overall survival rates of 100% and failure-free rates of 88%.

Side effects

Urinary tract infection and acute urinary retention can occur in up to 17% of patients, while dysuria and haematuria are more common.



Non-anatomy limiting:
1. FLA 2. IRE

Anterior – transperineal approaches:
1. Cryotherapy

Apical tumours – non-thermal energy sources:
Bracytherapy

Posterior tumours – transrectal approaches:
1. HIFU

Dr Jo Schoeman
07) 3371-7288
F 07) 3870-5350
admin@urojo.com.au
drjoschoeman.com.au