EDITORIAL

Focal therapy for prostate cancer — ready for prime time?

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For most of my career, focal therapy (FT) of prostate cancer has been a concept rather than a therapeutic option. I recently attended the *World Congress of Endourology and Technology* in Phoenix, Arizona. Quite by accident I stepped into a *Focal Therapy Society* session. What I learned surprised me.

The concept of FT stems from historical lessons in breast cancer treatment, where it became evident that "the depth of the surgeon's cut bears no sway on the rhythm of survival's song".[1]

As urological surgeons, we're stuck with a Hobson's choice in prostate cancer: definitive oncological control is paid for by the expense of notable morbidity, including urinary incontinence and erectile dysfunction. This reality has spurred the exploration of less invasive, tissue-sparing alternatives, with FT gaining increasing attention as a promising approach for well-selected patients.

I once saw a patient who had an undetectable PSA ten years post an open radical prostatectomy. I reassured and congratulated him. He replied that we would trade the ten years of cure for one night of normal erectile function! I didn't know what to say...

FT aims to precisely ablate the index lesion—often the most aggressive tumour focus—while sparing surrounding prostatic tissue and critical structures. We're familiar with technical advances such as multiparametric MRI (mpMRI) and targeted fusion biopsies that have revolutionised tumour localisation, improving patient selection and treatment accuracy.

Several modalities, including high-intensity focused ultrasound (HIFU), cryotherapy, laser ablation, and photodynamic therapy (PDT), irreversible electrovaporisation (IRE) and focal brachytherapy, are under clinical evaluation, demonstrating encouraging short- to medium-term oncological and functional outcomes.

Recent systematic reviews suggest that FT offers acceptable oncological control in patients with low- to intermediate-risk prostate cancer, with notably a low incidence of adverse events. For example, the meta-analysis by Hopstaken et al.[2] showed in HIFU studies a median of 95% pad-free patients and a median of 85% patients with no clinically significant cancer (CSC) in the treated area. For PDT, no changes in continence were reported and a median of 90% of patients were without CSC.

In another meta-anyalysis of 50 studies and over 4 000 patients by Ślusarczyk et al.[3] it was reported that the five-year radical and systemic treatment-free survival was 82%.

Biochemical failure could trigger salvage surgery. Anecdotally, the surgery is not made more difficult (as with EBRT or Brachytherapy), except for areas of difficult plains localised to the area where the FT had been administered.

Despite the promising data, several limitations impede widespread adoption. A significant concern is the lack of long-term oncological outcomes and standardised protocols. Many studies are preliminary, with most follow-up less than five years, rendering definitive conclusions about cancer-specific survival and progression-free survival premature. Furthermore, the multifocality of prostate cancer and its potential to develop new lesions necessitate vigilant follow-up strategies.

The 2024 EAU guidelines still assert that FT is not ready for prime time stating: "For now, focal therapy should be performed only within the context of a clinical trial setting or a well-designed prospective registry."[4]

A further impediment would appear to be funding. I've heard that there is a NanoKnife (IRE) machine in South Africa, but funder support lacking, it is apparently gathering dust in a warehouse.

In conclusion, FT appears to offer a compelling treatment option for men with localised prostate cancer who prioritise quality of life while maintaining oncological safety in carefully selected cases. Advances in imaging, biopsy accuracy, and ablative technologies continue to refine its application. However, robust long-term data from high-quality randomised trials are crucial to define its role definitively. As personalised medicine progresses, FT is poised to become an integral component of multimodal prostate cancer management, aligning with the broader goal of balancing oncological control with patient quality of life.

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References

1. Polascik TJ, Mottaghi M, Sanchez-Salas R. Focal therapy: The art of harmonizing cancer control with quality of life. J Endourol. 2025;39(S2):S1-S2. https://doi.org/10.1089/end.2025.32121.ed.
2. Hopstaken JS, Bomers JGR, Sedelaar MJP, et al. An updated systematic review on focal therapy in localized prostate cancer: what has changed over the past 5 years? Eur Urol. 2022;81(1):5-33. https://doi.org/10.1016/j.eururo.2021.08.005.
3. Ślusarczyk A, Gurwin A, Barnas A, et al. Outcomes of focal therapy for localized prostate cancer: a systematic review and meta-analysis of prospective studies. Eur Urol Oncol. 2025:S2588-9311(25)00039-2. https://doi.org/10.1016/j.euo.2025.02.003.
4. Cornford P, van den Bergh RCN, Briers E, et al. EAU-EANM-ESTRO-ESUR-ISUP-SIOG Guidelines on prostate cancer-2024 update. Part I: Screening, diagnosis, and local treatment with curative intent. Eur Urol. 2024;86(2):148-63. https://doi.org/10.1016/j.eururo.2024.03.027.