Medical Xpress

High-intensity focused ultrasound procedure treats localized prostate cancer while preserving urinary, sexual function

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Dr. Bruno Nahar says his experience with HIFU has taught him the importance of patient selection, as the procedure isn't "one size fits all." Credit: Desai Sethi Urology Institute

For Bruno Nahar, M.D., urological oncologist at Sylvester Comprehensive Cancer Center and Desai Sethi Urology Institute, performing the 150th focal high-intensity focused ultrasound (HIFU) procedure on a patient with localized prostate cancer wasn't just about reaching a milestone.

It was about pioneering a procedure that doctors are using worldwide to effectively treat localized prostate cancer, while preserving urinary and sexual function in men.

"Desai Sethi Urology Institute has been at the forefront of focal HIFU. Desai Sethi Founding Director Dipen J. Parekh, M.D., helped to develop HIFU. We were among the first academic institutions to perform it on a prostate cancer patient in the U.S. And we published the first U.S. series on the safety and efficacy of focal HIFU in prostate cancer," said Dr. Nahar, assistant professor of urologic oncology and Eric and Elizabeth Feder Endowed Chair in Urologic Oncology Research at Desai Sethi Urology Institute (DSUI) at the University of Miami Miller School of Medicine.

Changing the prostate cancer treatment landscape

Focal HIFU has changed the treatment landscape for many men with prostate cancer. Prior to HIFU, radiation therapy or surgery were standard treatment options for localized prostate cancer. While these treatments effectively eliminated the cancer, many men suffered complications such as urinary incontinence and erectile dysfunction.

Focal HIFU uses high-intensity ultrasound waves to destroy cancerous prostate tissue. The technology's ability to deliver localized heating (without surgery or making an incision) targets cells within the gland without harming nearby healthy tissue. This approach is likely to spare men the side effects that are more common with surgery or radiation,

and most HIFU patients go home the day of their procedure to recover.

"There is always a learning curve with newer procedures. Our experience in performing focal HIFU for prostate cancer has helped us to learn which patients are the best candidates for the less invasive approach and how to better use technology, including robotics and MRI, to refine HIFU," said Dipen J. Parekh, M.D., DSUI founding director and chair of urology at the Miller School. "Desai Sethi Urology Institute continues to drive innovation in the evolution of focal HIFU."

Continued research for HIFU and prostate cancer

Despite reaching the 150-patient milestone and having performed HIFU on more prostate cancer patients than just about any U.S. academic center, DSUI continues to study the approach.

"We are working on three new manuscripts that will not only provide updated outcomes but also explore crucial aspects like patient selection and follow-up strategies," Dr. Nahar said.

Dr. Nahar said that through the experience of he and Dr. Parekh performing a total of 150 cases at DSUI, the most significant lesson they have learned is the paramount importance of patient selection.

"The success of focal therapy (targeting cancer cells and avoiding healthy tissue), and HIFU in particular, largely hinges on this aspect. If you select your patients carefully, you will likely have good results," Dr. Nahar said. "That being said, HIFU isn't a one-size-fits-all solution. At DSUI, we offer other treatment modalities like surgery or active surveillance for those who aren't ideal candidates for focal therapy."

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