

# Monitoring blood flow helps improve prostate biopsies, researchers report

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Using a special ultrasound technique to spot areas of blood flow in the prostate gland may substantially reduce the number of unnecessary biopsies, according to a new study by urologists and radiologists at the Jefferson Prostate Diagnostic Center and the Kimmel Cancer Center at Jefferson in Philadelphia. The researchers found that biopsies targeted to areas of increased blood flow in the prostate were twice as likely to be positive for cancer compared with conventional prostate biopsy techniques. They reported their initial results from a clinical trial this week at the annual meeting of the American Urological Association in Orlando.

According to Prostate Diagnostic Center co-director Edouard Trabulsi, M.D., assistant professor of Urology at Jefferson Medical College of Thomas Jefferson University, finding the best areas to perform biopsies in the prostate has always been difficult. Standard methods entail simply dividing the prostate into a dozen regions within the gland, almost randomly. Center co-director Ethan Halpern, M.D., who is principal investigator on the four-year, National Cancer Institute-supported trial, has been developing and refining techniques to enhance targeted biopsy of the prostate for more than a decade.

Dr. Trabulsi, Ethan Halpern, M.D., professor of Radiology and Urology at Jefferson Medical College, and their co-workers randomly divided 63 prostate biopsy patients into two groups. One group was given the drug dutasteride, which can reduce the blood flow in benign prostate tissue, while the other half received a placebo. They then compared the results

from biopsies targeted by blood flow changes using contrast-enhanced ultrasound to those that were done the standard way. The study involved 979 biopsies.

“We’ve previously shown that a two-week course of the drug Avodart (dutasteride) before biopsy reduces the benign blood flow, or background noise,” Dr. Trabulsi explains, “allowing us to see subtle flow changes to target for biopsy. When we did this, we found that targeted biopsies based on the contrast-enhanced ultrasound are much more likely to detect prostate cancer. That’s the exciting part about this.”

Dr. Halpern explains that standard procedures fail to diagnose prostate cancer in approximately 30 percent of men with the disease, even though the biopsy protocol may sample 12 to 18 tissue cores from the prostate. “In the future, our goal is to perform a limited number of targeted biopsies and leave the rest of the prostate alone,” he says. “This will provide a safer, more cost-effective approach to diagnosing prostate cancer.”

The doctors say that the current study involves a novel ultrasound algorithm called flash replenishment imaging to show fine vascular flow differences. “The novelty is using the dutasteride before biopsy, using contrast-enhanced ultrasound and using the latest ultrasound technology to look for blood flow changes associated with prostate cancer.”

“We are beginning to have patients who were operated on come back in,” Dr. Trabulsi notes. “If we can show that we reliably hit the areas of cancer based on the ultrasound results and didn’t miss any, it’s a home run.”

Source: Thomas Jefferson University

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