PROSTATE CANCER

Type of biopsy probe determines detection rate

Differences in probes used for transrectal ultrasound-guided prostate biopsy have profound effects on the overall rate of prostate cancer detection, Ching and colleagues report.

In an observational study, the investigators assessed data from 2,674 patients who underwent initial prostate biopsy at the Cleveland Clinic Foundation, Ohio, between 2000 and 2007. Biopsies were performed with an end-fire probe in 1,124 men and with a side-fire probe in 1,550. "Our hypothesis was that end-fire probes can easily biopsy the entire anterior–posterior aspect of the prostate, whereas the side-fire probes obtain a more tangential core, so it is very difficult to reach the anterior aspect of the prostate," explains chief researcher J. Stephen Jones.

The end-fire probe yielded a notably higher overall cancer detection rate than the side-fire probe (45.8% versus 38.5%). These differences were particularly striking in patients with a PSA level >4 ng/ml and for biopsy protocols requiring 8–19 cores.

These data suggest that the side-fire probe is inferior to the end-fire probe, which obtains more cores from regions of the prostate, such as anterior and apical tissue, where cancer is most likely to be found. Jones describes that "one can reach the unrecognized cancers of the anterior prostate and apex more readily with an end-fire probe." He recommends that physicians be aware of this, suggesting that an end-fire biopsy might provide a better chance of detecting malignancy if side-fire biopsy is negative in a suspected case of cancer.

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Original article Ching, C. B. *et al.* Does transrectal ultrasound probe configuration really matter? End fire versus side fire probe prostate cancer detection rates. *J. Urol.* **181**, 2077–2082 (2009).