Left lobe of the prostate during clinical prostate cancer screening: the dark side of the gland for right-handed examiners.


Abstract

Background: The predictive value of the abnormality side during digital rectal examination (DRE) has never been studied, suggesting that physicians examined the left lobe of the gland as well as the right lobe. We aimed to assess the predictive value of the side of DRE abnormality for prostate cancer (PCa) detection and aggressiveness in right-handed urologists.

Methods: An analysis of a prospective database was carried out that included all consecutive men undergoing prostate biopsies between 2001 and 2012. The main end point was the predictive value of the abnormality side during DRE for cancer detection in clinically suspicious unilateral T2 disease. The diagnostic performance of left- versus right-sided abnormality was also assessed in terms of sensitivity, specificity and negative/positive predictive values.

Results: Overall, 308 patients had a suspicious unilateral clinical disease (detection rate 57.5%). The cancer detection rate was significantly higher in case of left-sided compared with right-sided clinical T2 stage (odds ratio 2.1). In case of left-sided disease, the number of positive cores, the rate of perineural invasion, the rate of primary grade 4 pattern and the percentage of cancer involvement per core were significantly higher compared with those reported for right-sided disease. The predictive value of abnormality laterality for cancer detection and aggressiveness remained statistically independent in multivariate models. The positive predictive value for cancer detection was 64.6 in case of suspicious left-sided disease versus 46.9 in case of right-sided disease.

Conclusions: The risks of detecting PCa and aggressive disease on biopsy are significantly higher when DRE reveals a suspicious left-sided clinical disease as compared with right-sided disease. Right-handed physicians should be aware of this variance in diagnostic performance and potential underdetection of left-sided clinical disease, and should improve their examination of the left lobe of the gland by conducting longer exams or changing the patient's position.

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