Digital Rectal Examination for Prostate Cancer

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About 1.1 million men are diagnosed with prostate cancer yearly, making it the most diagnosed malignancy in men after nonmelanoma skin cancers. [1] As prostate cancer causes considerable morbidity and mortality, screening via the Digital Rectal Examination (DRE), Prostate-Specific Antigen (PSA) test, or both has become the basis of clinical practice. DRE may not considerably reduce mortality but may result in a high number of false positive results leading to needless invasive diagnostic tests. The Canadian Urological Association recommends screening with both DRE and PSA in all average-risk men aged 50 years and older. DRE has an overall estimated sensitivity, specificity, and positive predictive value (PPV) of 53.2%, 83.6%, and 17.8%, respectively [1]. Urology consultations and prostate biopsy procedures have been suspended in many countries during the severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2)-related disease pandemic [2].

Digital Rectal Examination (DRE) is one of the most common procedures for prostate cancer early detection. However, its use for screening purposes has debatable benefits and potential harm can occur due to false-positive results, overdiagnosis, and overtreatment [3]. DRE demonstrated prognostic utility when PSA >3, limited utility when PSA <2, and marginal utility for PSA 2-3 [4]. DRE is an inexpensive examination and is easy to perform in a clinical setting. DRE adds to the sensitivity and specificity of the PSA and is an integral part of the assessment for the early detection of prostate cancer. GPs should always perform DREs as part of their evaluation for the primary discovery of prostate cancer [5]. In a study, an important number of men presenting for biopsy had a positive DRE or PSA 10 - 25 ng / mL. The four Kallikrein panel test had good discrimination in these men and reduced biopsy rates in this group by over 20%. Therefore, the use of the panel in men with positive DRE or PSA 10 - 25 is justified [6]. Reviewed medical records of patients who underwent an initial prostate needle biopsy for abnormal DRE, and high prostate-specific antigen demonstrated that obese patients have lower PSA levels, larger prostates, and abundant perirectal fat. Lower PSA serum levels and large prostate size associated with high BMI indicated a potential risk for delayed diagnosis and poor pathological outcomes [7].

Prostate nodules are the most important finding in DRE for cancer detection. An asymmetric prostate itself cannot be accepted as a cancer sign. Some additional studies may be useful to come to an exact conclusion about asymmetry in the prostate [8]. PSA as a screening tool has contributed to the early detection of prostate cancer. However, it has also resulted in overdiagnosis and over-treatment [9]. As regards the position of the patient to perform DRE of the prostate, the choice of the examiner is the modified lithotomy position, while some patients prefer or think it is less embarrassing to re-receive DRE in the left lateral position. Results of DRE in the different positions evaluated demonstrate a faster examination time in the standing-up position. Pain, urinary urgency, and bowel urgency scores are also comparable between each position, except for squatting down with elbows on the table, which may show an increased bowel urgency score [10]. In another study, presenting patients ‘points of view, their expectations about DRE were negative before the examination and changed significantly following the exam. Pain during the examination was negligible, contrary to the prevalent belief. These two findings must be clearly presented to patients to improve PCa screening acceptance [11].

Prostate-specific antigen allows the early detection of disease recurrence. Although digital rectal examination is widely used to follow patients, contemporary studies consistently show that disease progression does not occur in the absence of increasing prostate-specific antigen. This suggests that remote follow-up of patients with prostate-specific antigen alone is a safe practice, although caution should be exercised in those with higher-grade tumors, which may not produce significant amounts of prostate-specific antigen [12]. Finally, Digital rectal examination (DRE) is still routinely performed as part of a urology clinical assessment in patients with a clinical suspicion of prostate cancer. An abnormal DRE or a raised Prostate-Specific Antigen (PSA) level is part of
the criteria for primary care referral to secondary care due to a suspicion of prostate cancer.

References


