

The Combined Diagnostic Role of Digital Rectal Examination, Prostate Specific Antigen, Transrectal Ultrasound and Transrectal Ultrasound Guided Biopsy to Differentiate Benign Versus Malignant Prostatic Enlargement

Ershad Hussain Galeti^{1*}, Mriganka Deuri Bharali², Saqib Shahab³

1. Senior resident, Dept of urology, Narayana Medical College, Nellore, India
2. Senior Resident, Dr Pinnamaneni Siddhartha Institute of Medical Sciences, Andhra Pradesh
3. Senior Resident, Dept of Urology, Venkateshwara Kidney Centre, Karimnagar, India

Corresponding Author: Ershad Hussain Galeti

Email: dr.ershadhussain@gmail.com



Abstract

Introduction: The term prostatomegaly encompasses both Benign Prostatic Hyperplasia and Carcinoma of the Prostate. This study aimed to find a screening tool for the early diagnosis of prostate carcinoma so that that specific treatment can be instituted at an early stage in the Indian population. **Objectives:** To establish the role of digital Rectal Examination (DRE), Prostate-Specific antigen (PSA), transrectal ultrasound (TRUS) and transrectal ultrasound guided biopsy in differentiating benign enlargement from the malignancy of the prostate. **Methods:** This was a prospective observational study conducted over two years in 130 men above 40 years with Lower Urinary Tract Symptoms specifically attributed to prostate problems. Utility of PSA, DRE, TRUS and TRUS guided biopsy for diagnosis of prostate carcinoma were evaluated and compared. **Results:** Among the benign cases, 1.72% had PSA \leq 4 ng/mL, 86.21% had PSA between $>$ 4 to 10 ng/mL and 12.07% had PSA $>$ 10 ng/mL. Among the malignant cases, 9.09% had PSA \leq 4 ng/mL, 4.55% had PSA between $>$ 4 to 10 ng/mL and 86.36% had PSA more than 10 ng/mL. The sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy of DRE for diagnosis of malignancy were 54.55%, 98.28%, 92.31%, 85.07% and 86.25%, respectively. The sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy of TRUS for diagnosis of malignancy were 72.73%, 94.83%, 84.21%, 90.16% and 88.75%, respectively. The sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy of PSA for diagnosis of malignancy were 90.91%, 22.41%, 30.77%, 86.67% and 41.25%, respectively. **Conclusion:** The proportion of suspicion of malignancy by DRE increased significantly, with an increase in the Gleason score. As the PSA level increases, the chances of biopsy having malignancy also increased significantly. Therefore, it is suggested to do TRUS-guided transrectal Biopsy in patients with abnormal DRE and PSA more than 10 ng/mL

Keywords: Digital rectal examination, hyperplasia, prostate specific antigen, transrectal ultrasound, prostate cancer