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A prospective study to compare biopsy report with ultrasonographic findings in patients with prostatism

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Abstract

Background: Prostatism is a syndrome associated with outlet obstruction at the bladder neck and the commonest cause is benign prostatic hypertrophy. If left untreated, prostatism progresses in severity over time.

Aims and Objective: To study USG findings of patients with prostatism and comparing with the biopsy report.

Materials and Methods: Hundred cases of prostatism attending surgery outpatient department of School of Medical Sciences & Research, Sharda University Greater Noida, from January 2016 to January 2018 were studied. USG was done in all the patients. Reported complications were also recorded for all the patients.

Results: Out of 93 patients of prostatomegaly, 96.78% benign prostatic hyperplasia (BPH), 1.07% of prostate cancer, 1.07% of Atypia and 1.07% of inconclusive/failure of procedure cases showed prostatomegaly. Out of 7 prostatomegaly with altered echo cases, 42.86% and 57.14% cases were of BPH and Ca prostate respectively.

Conclusion: The Ultrasonography provides information about size of prostate, post-void urine volume and hypo echoic lesions in prostate suggestive of malignancy of prostate. It was efficient than DRE for diagnosis of prostate cancer.

Keywords: USG, hematuria, prostatomegaly, BPH

Introduction

In general, prostatism progresses in severity over time if left without any medical or surgical intervention. Prostatism is both bothersome and potentially serious condition which affects the quality of life of a substantial number of men who are middle aged and beyond ^[1].

Aspects of quality of life that can be affected includes psychological wellbeing, restrictions in their daily and social activities and relationship, anxiety, depression and deterioration in general health perception ^[2].

Transabdominal USG has proved to be the most accurate predictor of actual prostate size ^[3, 4]. In addition, sonography provides information about post-void urine volume, hypoechoic lesions in prostate suggestive of malignancy of prostate, vesicle calculus, median lobe and also the state of kidney and ureters.

In present study we tried to compare biopsy results with the USG findings of patients with prostatism.

Materials and methods

In present prospective study 100 cases of prostatism coming to surgery outpatient department of School of Medical Sciences & Research, Sharda University Greater Noida, from January 2016 to January 2018 were studied.

All male patients above 50 years of age having complaints of frequency, nocturia, urgency, hesitancy, weak stream and acute retention of urine and those willing to give a written informed consent were included.

Confirmed cases of prostate cancer, deranged coagulation profile and unwilling to participate were excluded from the present study.

Detail history along with clinical examination of patient including digital rectal examination (DRE) was done. Routine laboratory investigations and relevant special investigations including Ultrasonography of prostate and post-void urine volume was done.

Biopsy procedure was explained to the patient in details and written informed consent taken. Antibiotic coverage was given to patient before and after procedure.

In lithotomy position digital rectal examination was performed and under all aseptic condition, through transperineal route prostate biopsy was done. Biopsy samples were sent to pathology laboratory for reporting.

All the data analysis was performed using IBM SPSS ver. 20 software. Quantitative data was expressed as mean \pm standard deviation (SD) whereas categorical data was expressed as percentage. Cross tabulation and frequency distribution was used to prepare the table and Microsoft excel 2010 was used to prepare the required graph. Level of significance was assessed at 5% level.

Results

Table 1: Comparing Ultrasonography Findings of prostate and Biopsy report

USG findings	BPH	Ca prostate	Atypia	Inconclusive/failure of procedure	Total (%)
Prostatomegaly	90 (96.78)	1 (1.07)	1 (1.07)	1 (1.07)	93
Prostatomegaly with altered echo texture	3 (42.86)	4 (57.14)	0 (0)	0 (0)	7
Total (%)	93	5	1	1	100

Data is expressed as no of patients (%), prostatomegaly with altered echo texture; suspicious of ca prostate, $\chi^2 = 29.07$, $df = 3$, $p < 0.01$, highly significant. By applying Chi-square test there is a highly significant association between USG findings and biopsy report in cases of prostatism ($p < 0.01$).

In present study 1 patient had severe hematuria and 6 patients had significant pain as the major complications after transperineal biopsy procedure.

Discussion

Prostatism is a clinical syndrome, occurring mostly in older men, usually caused by enlargement of prostate gland and manifested by troubling symptoms (nocturia, frequency, sensory urgency, incontinence) and obstructive symptoms (hesitancy, decreased stream, terminal dribbling, double voiding and urinary retention) [5].

In present study, on ultrasonography of prostate, only 7 cases were suspected as prostate cancer and rest 93 cases seems to be as having Benign Prostatic Enlargement. On Prostate biopsy, out of 7 suspected cases of prostate cancer, 4 cases (57.1%) were confirmed as having Ca prostate and remaining 3 cases found to have BPH. Out of 93 suspected cases of Benign prostatic enlargement, 90 cases confirmed as Benign Prostatic hyperplasia, 1 case turned out to be of Ca prostate, 1 found to have Prostatic atypia and remaining 1 case had inconclusive report.

These findings were compared with those of Thompson *et al.* [6] who suspected 591 cases to have Ca prostate on Ultrasonography, out of which only 326 cases (55%) were confirmed on biopsy. Tang *et al.* [7] studied 472 cases for screening of Ca prostate, 240 Cases found to have hypo echoic nodule on ultrasonography out of which 162 (67.5%) cases had confirmed Ca prostate on biopsy. Singh *et al.* [8] found 23 cases of altered echo texture in prostate and out of which 11 (47.8%) cases confirmed to have Ca prostate.

In our study, after transperineal prostate biopsy of 100 cases of prostatism, only 5% cases detected as Ca prostate and remaining 93% found as BPH. One patient was diagnosed as Prostatic atypia and one as inconclusive. Both these patients were advised repeat biopsy after 6 weeks. These findings were compared with Novella *et al.* who studied 292 cases and found 28% ca prostate patients [9]. In the study Shaker S *et al.* including 213 cases [10] found 19% of the cases to have Ca prostate where as El Imam *et al.* [11] diagnosed 54% cases of Ca prostate.

Conclusion

Prostate biopsy is being followed in routine practice for screening prostate cancer. BPH was the most common cause

of prostatism. The Ultrasonography provides information about size of prostate, post-void urine volume and hypo echoic lesions in prostate suggestive of malignancy of prostate. It was efficient than DRE for diagnosis of prostate cancer. The prostate biopsy is the only test that can confirm the diagnosis of prostate cancer. The transperineal prostate biopsy is a safe and minimal invasive procedure with a very low complication rate. It can be routinely done on an outpatient basis and rarely require hospitalization.

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