



SPECTRUM OF PROSTATIC LESIONS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Introduction - Incidence of prostatic lesions increases with age causing significant morbidity and mortality in males. This retrospective study was done in department of Pathology, RIMS, Ranchi to study the histopathological pattern of Prostatic lesions in TURP specimen.

Result – During the study period, a total of 86 TURP specimen was received in our department. The most common non-neoplastic lesion was benign prostate hyperplasia (90.6%) while carcinoma prostate comprises of 9.3% cases. Lesions of prostate were most common in the 7th decade of life.

Conclusion – Benign lesions of prostate are common than malignant lesions. Histopathological examination of prostate specimens are important for diagnosis of benign and malignant lesions, especially to rule out incidental carcinoma.

KEYWORDS : prostatic lesions, benign prostate hyperplasia, carcinoma prostate

INTRODUCTION

Lesions of prostate are not uncommon in men particularly at an increasing age¹. They can be broadly divided into Inflammatory lesions (prostatitis), nodular hyperplasia (benign prostate hyperplasia) and prostatic carcinoma. Globally, prostatic carcinoma is the second most frequently diagnosed cancer and the sixth leading cause of cancer deaths in males^{1,2,4}. In India it consists of around 5% of all cancers³. The incidence of carcinoma prostate is rising, the reason being likely due to awareness among people leading to early detection in screening procedures. Ultrasonography is the procedure of choice for screening with a high sensitivity. In the past few decades, much research has been done in the diagnostic fields of prostatic adenocarcinoma. This has helped us in identifying the histological variants of prostatic adenocarcinoma, their precursor lesions, prognosis and their treatment. The pathophysiology of BPH remains incompletely understood. The histological features in BPH is attributable to the presence of testosterone and dihydrotestosterone. Other environmental factors that influence the course of disease are diabetes, obesity, physical inactivity and consumption of excess alcohol. Diagnosis of BPH or carcinoma prostate is usually done by histopathology based on morphological features, presence or absence of nuclear atypia and loss of basal cell layer.

Diagnosis of prostatic adenocarcinoma poses a great challenge for the pathologist inspite of advanced diagnostic modalities. Transurethral resection of prostate is the primary surgical procedure done for management of BPH. Thorough sampling of histopathological sections are required as cases of PIN or even carcinoma prostate can be missed.

AIMS AND OBJECTIVES

To study various lesions of prostate in TURP specimens received in department of pathology, RIMS, Ranchi.

MATERIALS AND METHODS

This retrospective study included all the histopathological specimen of prostate received during January 2018 to April 2019 in the department of pathology, RIMS, Ranchi. All the histopathological data maintained in relation to the specimen of prostate were retrieved. The H & E stained histopathological slides were reviewed and re-examined. All the relevant clinical data were obtained from the respective requisition forms submitted in the department. Each case was analysed with respect to age, clinical presentation and gross appearance and microscopic findings. The lesions of prostate were categorised under inflammatory, non-neoplastic, pre-malignant and malignant groups. Carcinoma prostate was classified using Gleason's score.

RESULT

The study included 86 cases of TURP specimens received in our department. The age of patients ranged from 40 to 90 years with a mean age of 65 years. All the prostatic specimen were classified into non-neoplastic and neoplastic group. They were further sub-classified according to the standard classification system.

Out of the 86 cases, most of the prostatic lesions were benign (90.6%). Benign prostate hyperplasia was the most common diagnosis with 12 cases presenting with prostatitis. 2 cases presented with basal cell hyperplasia. Malignant lesions comprised of 9.3% of all prostatic lesions. Majority of the cases were seen after 60 years of age with most cases falling in 61-70 year age group followed by 71-80 year age group. Prostatic cancer was most commonly seen in 71-80 year age group. All the cases were histopathologically adenocarcinoma. Out of the 8 cases of carcinoma prostate only one case had a Gleason score of 5. The remaining other cases had a Gleason Score of more than 6.

Table 1.

Age group (years)	BPH	BPH with prostatitis	Basal cell hyperplasia	Prostatic carcinoma
41-50	1	0	1	0
51-60	11	2	0	1
61-70	31	7	0	2
71-80	10	2	0	4
81-90	11	1	1	1
Total	64	12	2	8

Table 2 – Gleason score in carcinoma prostate

Gleason Score	Number of cases
5	1
6	1
7	3
8	2
9	0
10	1

DISCUSSION

Prostate is a pear shaped organ comprising of glandular and stromal components. It is divided into 3 main regions – the peripheral zone, central zone and transitional zone. The common pathological lesions of prostate include benign prostate hyperplasia, prostatitis, premalignant and malignant conditions. Benign prostate hyperplasia is most common in transitional zone while carcinoma prostate is most common in peripheral zone. Although other diagnostic modalities like serum PSA, trans-rectal ultrasound are

available, histopathology remains the gold standard for diagnosis. In our study, majority of the cases (90.6%) were BPH, while only 9.7% cases were prostatic carcinoma, which were similar to the studies done by Arya RC et al, Kumar et al, ang Deshmukh et al⁶.

Benign hyperplasia of prostate occurs due to proliferation of both glandular as well as stromal elements in response to increased levels of androgens. The lesions manifest at an advanced age as a result of continuous stimulation by these hormones. Hyperplastic glands form papillary infoldings, may also be cystically dilated and contain corpora amyloacea.

Prostatitis was associated with 15.8% cases of BPH. Patel SK et al and Josephine A have reported chronic prostatitis associated with nodular hyperplasia of prostate in 26.78% and 25.31% cases respectively⁸. Sharma A et al¹² found prostatitis in 33.06% cases⁹.

All the cases of carcinoma prostate were histologically adenocarcinoma which were similar in other studies also. The cases were graded in accordance with Gleason's score. Gleason grading correlates with tumor aggressiveness and thus helps in prognosis. Tumors with Gleason score 8-10 have advanced cancers with poor prognosis. In our study, 3 cases had Gleason score between 8-10. These cases also presented with perineural invasion which comprised of 37.5% cases of carcinoma prostate. Various authors have mentioned perineural invasion of 24-42% in their studies.

CONCLUSION

Benign prostate hyperplasia is the most common non-neoplastic lesion presenting in the seventh decade of life. Chronic prostatitis may also be associated with BPH. All cases of carcinoma prostate were adenocarcinoma and many were an incidental finding. Thorough sampling of all cases are mandatory so as not to miss malignancy

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