



ORIGINAL RESEARCH PAPER

Pathology

HISTOPATHOLOGICAL SPECTRUM OF PROSTATE LESIONS: A STUDY IN RIMS, RANCHI

KEY WORDS: Prostate, Histopathology, TURP.

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ABSTRACT

Prostate is one of the most commonly affected organs in males with increasing age, accounting for significant morbidity and mortality. The most important categories of prostatic diseases are inflammatory lesions (prostatitis), nodular hyperplasia (benign prostatic hyperplasia), and carcinoma. It was a 3 years study done retrospectively from January 2016 to December 2018. It was conducted in histopathology section of the department of pathology of **Rajendra Institute of Medical Sciences (RIMS), Ranchi**. It was a 3 years study done retrospectively from January 2016 to December 2018. Chronic prostatitis was present in 8cases (6.67%). PIN was diagnosed in 4 cases (3.33%). Benign hyperplasia of prostate (BPH) was the most common histological diagnosis with 77 cases (64.17%). Prostatic carcinoma was diagnosed in 28 cases (23.33%). Benign lesions were more common than malignant lesions. Histological study of prostate specimens is mandatory so as not to miss a malignancy.

INTRODUCTION:

Prostate is one of the most commonly affected organs in males with increasing age, accounting for significant morbidity and mortality. The most important categories of prostatic diseases are inflammatory lesions (prostatitis), nodular hyperplasia (benign prostatic hyperplasia), and carcinoma. Transurethral resection of prostate (TURP) specimens form a significant percentage of diagnostically challenging cases in surgical pathology.¹ TURP is a common urological procedure primarily used for the surgical management of benign prostatic hyperplasia (BPH).²

BPH represents nodular enlargement of the prostate caused by proliferation of both glandular and stromal components. The incidence of BPH increases with age, being only 8% during the fourth decade, 50% in the fifth decade and upto 75% in the eighth decade.³ Prostatitis occurs in approximately 10% to 15% of men.⁴ It may be classified as acute, chronic and granulomatous and is a common finding associated with BPH.

The understanding of biology of premalignant lesions has become increasingly important. These precursor lesions have recently been attributed to the concept of the multistep carcinogenesis of prostate cancer. Two premalignant lesions have been recognized: prostatic intraepithelial neoplasia (PIN) and atypical adenomatous hyperplasia (AAH). The term prostatic intraepithelial neoplasia was endorsed. It is defined as a cytological alteration in architecturally normal glands and is further categorized into low grade (LGPIN) and high grade (HGPN). AAH was first described by McNeal and it represents an architectural alteration in cytologically unremarkable glands.^{3,5,6} Carcinoma of prostate is ranked the second most common cause of cancer related deaths in men older than 50 years, the incidence of which increases with increasing age.⁷ The presence of tumor in TURP specimen may be due to extensive spread by conventional carcinoma of the peripheral zone of the gland or may be a manifestation of the uncommon carcinoma of transitional zone.³ Clinically in apparent prostate tumors that are incidentally diagnosed in TURP specimens are referred to as incidental carcinoma of the prostate.^{8,9} Correct and complete knowledge of epidemiology is very important in helping policy makers and concerned authorities to plan and formulate strong cancer control strategies based on scientific and empirical basis.

The present study was conducted with an aim to enumerate histomorphological spectrum of prostatic lesions.

MATERIALS AND METHODS:

It was a 3 years study done retrospectively from January 2016 to December 2018. It was conducted in histopathology section of the department of pathology of **Rajendra Institute of Medical**

Sciences (RIMS), Ranchi. Retrospective analysis of all TURP specimens, prostatectomy specimens and prostate biopsy specimens received in the department was done. All histopathological data, pertaining to those specimens maintained in the histopathology section were retrieved and reviewed. Histology slides of all cases were reviewed. Staining was done by Haematoxylin and Eosin stains. Each case was analyzed with respect to age, clinical presentation and microscopic diagnosis. Prostatic carcinomas were classified using Gleason's score.

RESULTS:

A total of 120 cases of prostate were received during the study duration of 3years. Out of these TURP cases were 80 (66.67%), prostate biopsy cases were 22 (18.33%) and prostatectomy cases were 18 (15%). Age of the patients ranged from 40years to 85years. Most of the specimens were observed from patients in age group of 61-70 years followed by 71-80 years. The most common age group presenting with benign prostate hyperplasia were 61-70 years. Prostatic cancer was most commonly seen in patients >80years of age. In 3 cases (2.5%) tissue was scanty and opinion was not possible. All such cases were of prostate biopsy. Chronic prostatitis was present in 8cases (6.67%). PIN was diagnosed in 4 cases (3.33%). Benign hyperplasia of prostate (BPH) was the most common histological diagnosis with 77 cases (64.17%). Prostatic carcinoma was diagnosed in 28 cases (23.33%). All were histologically adenocarcinoma.

Table 1: Year wise cases of TURP, Prostate Biopsy and Prostatectomy

YEAR	TURP	PROSTATE BIOPSY	PROSTATE CTOMY	TOTAL
2016	28	04	04	36
2017	28	07	06	41
2018	24	11	08	43
TOTAL	80 (66.67%)	22 (18.33%)	18 (15%)	120

Table 2: AGE WISE DISTRIBUTION OF DIFFERENT HISTOLOGICAL FINDINGS OF ALL 3YRS

AGE	SCANTY/ INCONCLUSIVE	BPH	CHRONIC PROSTITIS	PIN	CARCINO MA
31-40yrs	00	03	00	01	00
41-50yrs	00	00	00	00	02
51-60yrs	00	08	04	02	03
61-70yrs	02	45	02	01	03
71-80yrs	01	15	02	00	05
>80yrs	00	06	00	00	15

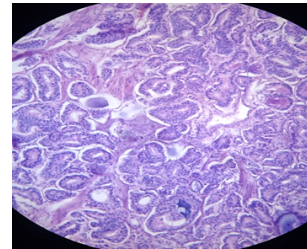
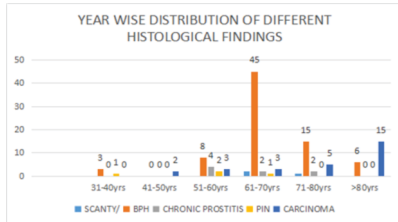


Table 3: YEAR WISE DISTRIBUTION OF DIFFERENT HISTOLOGICAL FINDINGS

YEAR	TYPE OF SPECIMEN	SCANTY/INCONCLUSIVE	BPH	CHRONIC PROSTITIS	PIN	CARCINOMA
2016	TURP	00	22	03	00	03
	BIOPSY	00	02	00	00	02
	PROSTATECTOMY	00	01	00	00	03
2017	TURP	00	19	01	02	06
	BIOPSY	01	04	01	00	01
	PROSTATECTOMY	00	04	00	00	02
2018	TURP	00	15	03	02	04
	BIOPSY	02	04	00	00	05
	PROSTATECTOMY	00	06	00	00	02
	TOTAL	03	77	08	04	28
	PERCENTAGE	2.5%	64.17%	6.67%	3.33%	23.33%

DISCUSSION:

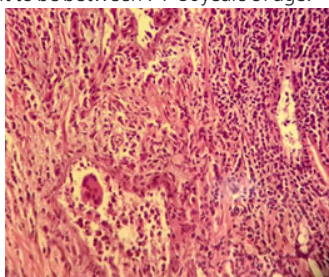
Prostate is a fibromusculoglandular organ and have three major regions- peripheral zone, central zone and transitional zone. Prostatic hyperplastic lesions are common in transition zone and peripheral zone is the main site for carcinomas⁷. Important diseases associated with prostate includes, benign nodular hyperplasia, inflammation and tumors. Incidence of prostatic diseases increases with increasing age. In the present study, 120 specimens were analyzed. Benign lesions were more common compared to malignancies which is similar to most other Indian studies.^{1,10} Thapa N et al in their study found that BPH was most common lesion and these observations were comparable with our findings.¹¹ Majority of the cases were encountered in the age group of 61-70 years followed by 71-80 years. This corroborates with findings of Shirish C et al¹, Thapa N et al¹¹. We observed that the commonly affected age group by malignancy was >80 years while Kasliwal N et al and Deshmukh BD et al in their respective studies found it to be between 71-80years of age.^{12,13}

CONCLUSION:

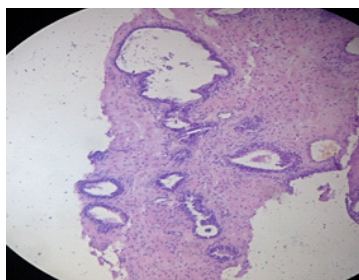
Benign lesions were more common than malignant lesions. Maximum patients who were affected were in 6th decade. Histological study of prostate specimens is mandatory so as not to miss a malignancy. Identification of premalignant lesions can improve the treatment outcome of patients. Prostate being an important organ to be screened, asymptotically or symptomatically, for early diagnosis of carcinoma prostate overt or occult. In this study prostate carcinoma were diagnosed in between age groups of 41-50years to >80years. Hence, this becomes mandatory to be taken care of, with appropriate screening, to avoid delay in diagnosis.

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Chronic prostatitis (H & E stain, High power)



Benign prostatic hyperplasia (H & E stain, High power)