Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 8s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Histopathological Pattern In Turp Specimens Analysed Retrospectively In A Tertiary Care Hospital

Sudha V. B[1]., Sanjay Sawant[2], Sudarshan Reddy[3], Vandana Gaonpande[4], Padmashree Haldankar[*1]

[1]Assistant Professor, Dept of Pathology, SSPM Medical College & Lifetime Hospital, Padve, Sindhudurg, Maharashtra, India.

[2]Associate Professor, Dept of Pathology, SSPM Medical College & Lifetime Hospital, Padve, Sindhudurg, Maharashtra, India.

[3]Professor, Dept of Pharmacology, SSPM Medical College & Lifetime Hospital, Padve, Sindhudurg, Maharashtra, India.

[*4]Professor & HOD, Dept of Pathology, SSPM Medical College & Lifetime Hospital, Padve, Sindhudurg, Maharashtra, India.

***Corresponding Author:**

Email- padmahaldankar@gmail.com

Cite this paper as: Sudha V. B, Sanjay Sawant, Sudarshan Reddy, Vandana Gaonpande, Padmashree Haldankar, (2025) Histopathological Pattern In Turp Specimens Analysed Retrospectively In A Tertiary Care Hospital. *Journal of Neonatal Surgery*, 14 (8s), 253-257.

ABSTRACT

Background: The prostate is a retroperitoneal organ without a clear capsule that surrounds the neck of the bladder and urethra. The prostate gland is impacted by only three pathologic processes frequently enough to warrant discussion: tumours, benign prostatic hypertrophy (BPH), and inflammation. BPH is the most prevalent of them and affects older men so frequently that it is practically considered a "normal" aspect of ageing. Prostate transurethral resection(TURP) is a routine procedure. Typically, these specimens show benign prostatic hyperplasia. On the other hand, incidental prostate cancer is occasionally seen.

Objective: To examine different histological patterns in TURP specimens that were collected by the Department of Pathology between January 2020 and December 2023.

Materials and methods: This study is a retrospective observational analysis of TURP specimens that were received between January 2020 and December 2023 by the Department of Pathology at the SSPM Lifetime Medical College and Hospital. Standard techniques were used to identify and categorise a variety of lesions. Standard techniques were employed to classify prostate cancers that were incidentally discovered. The WHO classified and rated incidentally discovered prostate cancers using a modified Gleason's score.

Results: Out of 84 TURP specimens, 19 (25%) were transitional epithelium, 33 (43%) were Benign Prostatic Hyperplasia (BPH), 21 (28%) were chronic prostatitis (CP), Benign prostatic hyperplasia with chronic prostatitis (Fig 3), and 6 (8%) were prostate adenocarcinoma.

Conclusion: Histopathological examination of prostatic lesions aids in incidental detection of prostatic adenocarcinoma who missed clinical suspicion and were operated for other reason. Early diagnosis and treatment can reduce mortality and morbidity associated with prostatic lesions.

Keywords: *Prostate, Benign Prostatic Hyperplasia (BPH), Prostate Cancer, Prostate Adenocarcinoma, Chronic Prostatitis (CP), Transurethral Resection of the Prostate (TURP), Histopathology, Incidental Prostate Cancer, Gleason Score, Retrospective Study*

1. INTRODUCTION

The prostate is an organ located retroperitoneally that surrounds the neck of the bladder and urethra and does not have a separate capsule and symptoms related to urination, such as hesitation, retention, urgency, and dribbling, may result from its enlargement (1). As people age, the prevalence of prostatic conditions such as cancer and benign prostatic hyperplasia (BHP) rises (2,3). The majority of cases of prostatic disease are caused by benign prostatic hyperplasia, which is most frequent, followed by prostatic cancer (4).

The two most significant subtypes of prostatic illnesses are benign prostatic hyperplasia (BPH) and inflammatory lesions, such as prostatitis. The eighth decade of life has a higher prevalence of BHP (90%) than the age group of 40 years, when the prevalence is 20%(5). Prostate disorders have garnered significant attention in the past twenty years, partly because of the perception of a high incidence of prostate cancer across many geographic and ethnic groups worldwide (6). Premalignant lesions have recently been identified, mostly due to technological advancements.

Therefore, it is essential to routinely review known benign lesions in light of the expanding knowledge of prostatic lesions in order to re-evaluate any potential association or influence they may have on malignant or premalignant prostatic disease (7). In surgical pathology, transurethral resection of the prostate (TURP) specimens account for a sizable portion of cases that present diagnostic challenges (8). A standard urological technique called TURP is mostly used to treat enlarged prostates surgically (9). Up to 27% of prostate malignancies were unintentionally discovered at the time of TURP before the PSA era (10). The purpose of this study was to gain understanding of the examine different histological patterns present in our organisation.

2. MATERIAL AND METHODS

The current retrospective investigation was carried out in the pathology department of SSPM Medical College and Lifetime Hospital from January 2020- December 2023. TURP specimens obtained during the aforementioned period were examined, and information was also gathered from the surgical pathology department's files and the medical record department.

Sections of typical lesional tissue and gross findings were inspected in the TURP specimens that were received. Hematoxylin and eosin (H&E) and other readily available special stains were used to stain the slides. In every case, a variety of histological patterns were examined and categorized according to age. After a histologic evaluation, the tumors were categorized in accordance with WHO guidelines, and a modified Gleason method was used for histologic grading.

3. RESULTS

Table-1 distribution of benign and malignant prostatic lesion

Carcinoma prostate	8%
Benign condition(bph+ cp)	92%

Table-2 Distribution of prostatic lesion by age

Age range	**Benign condition**	**Malignant condition**
31-40	1	0
41-50	3	0
51-60	8	0
61-70	32	3
71-80	30	1
81-90	4	2
91-100	0	0

Table-3: Distribution as per histological lesions of the prostatic specimens

Histopathological pattern	Number of cases	Percentage of cases %
transitional epithelium	19	25
Benign Prostatic Hyperplasia(BPH)	33	43

Chronic prostatitis (CP)	21	28
BPH+ CP	14	18
BPH+ basal cell hyperplasia	3	4
BPH+ squamous metaplasia	0	0
BPH+ urothelial metaplasia	1	1
Granulomatous prostatitis	1	1
PIN LOW GRADE	5	7
PIN HIGH GRADE	0	0
Atypical adenomayous hyperplasia	0	0
Adenocarcinoma	6	8

Over the course of study, 84 TURP specimens were seen at the department of pathology's histology section. The age range covered 31 to 90 years of age. There were 80 instances in all in this investigation. 78 (92%) of the prostatic specimens were found to be non-neoplastic, and 6 (8%), to be cancerous (Table no.1). Following that, each group was further divided into several categories using established classification schemes. The age distribution of lesions that are non-neoplastic and cancerous is shown in table no.2. Out of 84 TURP specimens 19(25%) showed transitional epithelium, Benign Prostatic Hyperplasia (BPH) 33(43%) cases (Fig 1), Chronic prostatitis (CP) 21(28%) cases (Fig 2), BPH+ CP (Fig 3), Adenocarcinoma of prostate 6(8%). Several other cases showed other interesting histopathological features like xanthogranulomatous inflammation (Fig 5), granulomatous inflammation (Fig 5), subcentimetersized papilloma (Fig 6) and cystitis cystica (Fig 7).

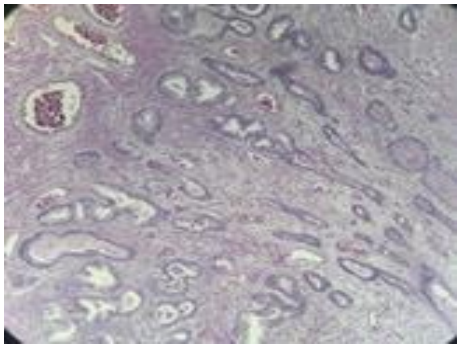

Fig. 1 Benign prostatic hyperplasia (BPH)

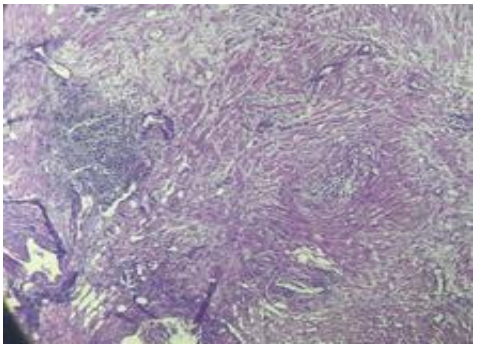

Fig 2. Chronic prostatitis

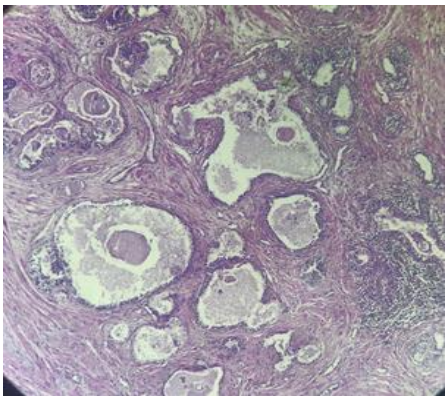

Fig. 3 BPH+CP

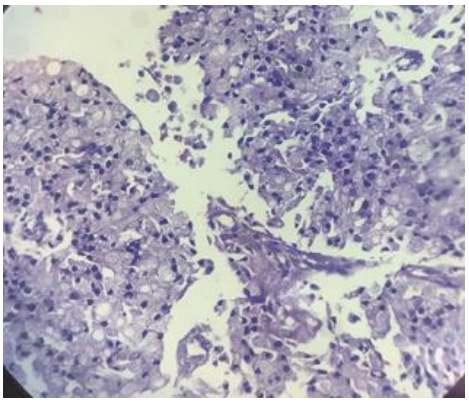

Fig 4 Adenocarcinoma of prostate.

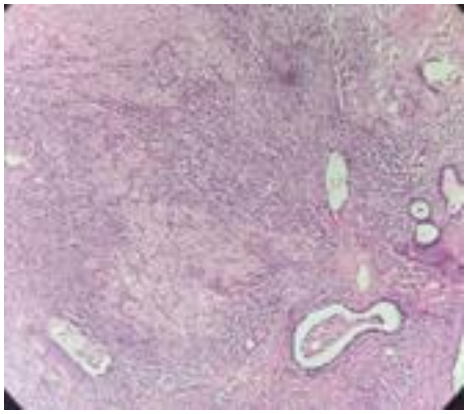

Fig. 5 xanthogranulomatous prostitis

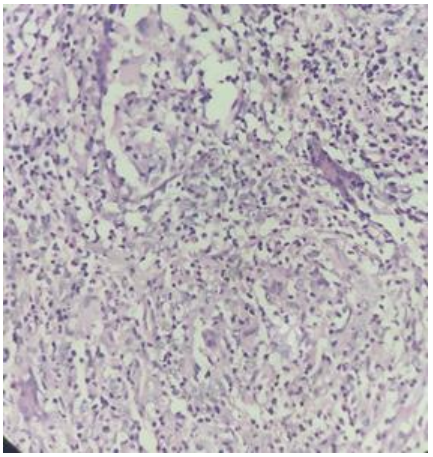

Fig. 6 Granulomatous prostitis

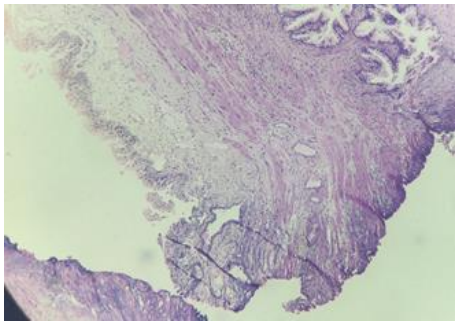

Fig. 7 Subcentimeter sized papilloma

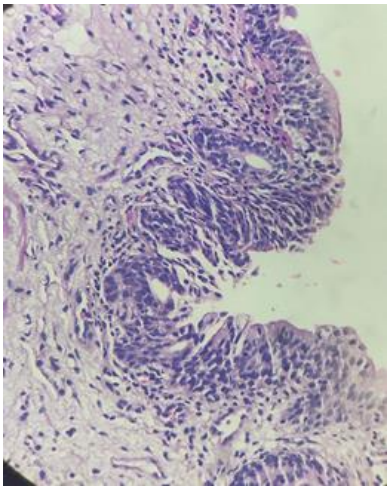

Fig. 8 Cystitis cystica

4. DISCUSSION

The most popular procedure used to treat BPH is the TUR-P surgery, and although it happens infrequently, prostate cancer can be unintentionally discovered. The periphery zone, transitional zone, and core zone are the three main zones of the prostate. The primary location of cancer is the peripheral zone (11). In order to ascertain the incidence of incidental prostate cancer in patients who underwent TUR-P due to BPH, as well as to assess the 84 patients underwent a retrospective examination.

The examination revealed that 36.9% of the cases belonged to the age range of 61-70 years, followed by 32.1% in the 71-80 years, 9.5% in the 51-60 years, 7.1% in the >80 years, and 4.7% in the 30-50 years area. This is consistent with observations of other workers (12, 13, and 14). There was no incidence of prostate adenocarcinoma before 50 years old. The results are consistent with previous research (15).In this study, 84 TURP specimens were examined. Similar to previous Indian studies, benign lesions were more common than malignancies (16, 17).

5. CONCLUSIONS

Prostate lesions are most common in men aged 61-70 years and 71-80 years with benign conditions outnumbering malignant ones. .Histological analysis of TURP specimens revealed that the most common finding was benign prostatic hyperplasia (BHP), followed by chronic prostatitis. TURP specimens need to be closely monitored. Our study found granulomatous prostatitis and atypical adenomatous hyperplasia in TURP specimens, which are rare findings.

REFERENCES

[1] Wadgaonkar AR,Patil AA,Mahajan SV et al.Correlatiotion of serum prostate specific antigen(PSA)level in various prostate pathology in elderly men .Int J Basic Appl Med Sci.2013;3:274-281.

[2] Kimura,T. and Egawa,S.Epidemiology of prostate cancer in Asian countries.Int .J.Urol.2018;25:524-531.

[3] Lim,K.B.Epidemiology of clinical benign prostatic hyperplasia.Asian Journal of Urology.2017;4(3):148-151.

[4] Lalitha K, Suman G, Pruthvish S, Mathew A, Murthy NS. Estimation of time trends of incidence of prostate cancer-An Indian scenario. Asian Pac J Cancer Prev. 2012; 13:6245-50.

[5] Lakhtakia R,Bharadwaj R,Kumar VK et al.Immunophenotypic characterization of benign and malignant prostatic lesions .Med J Armed Force India .2007;63:243-248.

[6] Von Eschenback AC. The change of prostate cancer CA-Cancer J Clin 1999, 49:262.

[7] Anim J.T, Ebrahim. B.H, Abdul SattarS. Benign Disorders of the prostate: A Histopathological Study. Ann Saudi Med 1998; 18(1): 22-27.

[8] Shirish C,Jadhav PS ,Anweker SC,Kumar H,Buch AC ,Chaudhari US.Clinico-pathological study of benign and malignant lesions of prostate .IJPBS.2013;3:162-178

[9] Trpkov K,Thompson J,Kulga A,Yilmaz A.How much tissue sampling is required when unsuspected minimal prostate carcinoma is identified on transurethral resection Arch Pathol Lab Med.2008;132:1313-1316.

[10] B. Tombal, L. de Visccher, J. P. Cosyn et al., Assessing the risk of unsuspected prostate cancer in patient with Benign Prostatic hypertrophy: a 13 years' retrospective study of incidence and natural history of T1a-T1b Prostate cancers, "BJU International, 1999; Vol. 84, no. 9, pp. 1015-1020.

[11] Epstein JI, Lotan TL. The lower urinary tract and male genital system. In: Kumar V,Abbas AK, Aster JC, editors. Robbins and Cotran Pathologic Basis of Disease. 9th ed.New Delhi: Elsevier; 2014:980-990.

[12] Bhat S,Chaudhri S,Bhat Pet al.Histopathological study of prostatic Diseases in Garhwal Region.Int J Sci Stud 2015 ;3(8):136-148.

[13] Patel SK ,Surti HB.Analysis of prostatic biopsies in a tertiary care hospital in correlation with prostate-specific antigen levels :Aclinicopathological study .Int J Med Sci Public Health. 2017;6(5):842 -846.

[14] Hirachand S,Dangol UMS ,Pradhanang S et al.Study of prostatic pathology and its correlation with prostate specific antigen .Journal of Pathology of Nepal 2017;7:1074- 1077.

[15] Albasri A,EL-Siddig A,Hussainy A,Mahrous M ,Alhosaini AA,Alhujaily A.Histopathological characterisation of prostate diseases in Madinath ,Saudi Arabia.Asian Pac J Cancer Prev .2014;15:4175-4179.

[16] Joshee A, Sharma KCL. The histomorphological study of prostate lesions. IOSR-JDMS. 2015; 14:85- 9.

[17] Burdak P, Joshi N, Nag BP, Jaiswal RM. Prostate biopsies: a five year study at a tertiary care centre. IJSR. 2015;4:420-3.