e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2026; 18(5); 1523-1531

Original Research Article

Histopathological Patterns of Prostatic Lesions with Serum PSA Correlation: A Retrospective Observational Study

Tarique Anwer[1], Amad Atique[2], Rahul Sinha[3], Mitali Das[4], Tarun Kumar[5], Punam Prasad Bhadani[6]

[1,2,4]Senior Resident, Department of pathology, All India Institute of Medical Sciences, Patna, Bihar, India
[3]Medical Officer, Sub divisional hospital, Phusro, Bokaro, Jharkhand, India
[5]Additional Professor, Department of pathology, All India Institute of Medical Sciences, Patna, Bihar, India
[6]Professor and HOD, Department of pathology, All India Institute of Medical Sciences, Patna, Bihar, India

Received: 22-03-2026 / Revised: 24-04-2026 / Accepted: 28-05-2026
Corresponding Author: Dr. Rahul Sinha
Conflict of interest: Nil

Abstract:

Background: Prostatic lesions are among the most common pathological conditions affecting elderly males and constitute a major cause of lower urinary tract symptoms worldwide. These lesions range from benign prostatic hyperplasia and inflammatory conditions to premalignant and malignant neoplasms. Histopathological examination remains the gold standard for diagnosis, while serum prostate-specific antigen (PSA) serves as an important biomarker in the evaluation of prostatic diseases. Correlation of serum PSA levels with histopathological findings may improve diagnostic accuracy and facilitate early detection of prostate carcinoma.

Aim: To study the histopathological spectrum of prostatic lesions and determine their association with serum PSA levels.

Materials and Methods: This retrospective observational study was conducted in the Department of Pathology, All India Institute of Medical Sciences, Patna, over a three-year period from January 2022 to December 2024. A total of 210 prostate specimens obtained through transurethral resection of prostate (TURP), needle biopsy, and prostatectomy were included. Histopathological evaluation was performed on hematoxylin and eosin-stained sections, and lesions were classified according to the WHO Classification of Urinary and Male Genital Tumours (2022). Serum PSA values were retrieved from hospital records and correlated with histopathological diagnoses. Statistical analysis was performed using IBM SPSS Statistics version 26.0. Chi-square test and one-way analysis of variance (ANOVA) were used for analysis, with $p < 0.05$ considered statistically significant.

Results: Among the 210 cases studied, benign prostatic hyperplasia (BPH) was the most common lesion, accounting for 118 cases (56.2%), followed by BPH with prostatitis in 42 cases (20.0%), prostatic intraepithelial neoplasia (PIN) in 14 cases (6.7%), and adenocarcinoma prostate in 36 cases (17.1%). The majority of cases occurred in the 61–70 years age group. Mean serum PSA levels were significantly higher in adenocarcinoma prostate (29.8 ± 11.6 ng/mL) compared with benign lesions ($p < 0.001$). A statistically significant association was observed between increasing PSA levels and malignant histopathological diagnosis (Chi-square = 52.84, $p < 0.001$).

Conclusion: Benign prostatic hyperplasia was the predominant prostatic lesion observed in the present study. Serum PSA levels showed a significant association with histopathological patterns, particularly malignant lesions. Combined evaluation of serum PSA and histopathology enhances diagnostic accuracy and contributes to the early detection of prostatic carcinoma.

Keywords: Prostate-specific antigen; Benign prostatic hyperplasia; Prostatic intraepithelial neoplasia; Adenocarcinoma prostate; Histopathology; Prostatic lesions.

DOI: 10.25258/ijcpr.18.5.246

Introduction

Prostatic lesions constitute one of the most common pathological conditions affecting elderly males worldwide and represent a major source of lower urinary tract symptoms, morbidity, and healthcare burden [1]. The prostate undergoes various histomorphological alterations with advancing age, ranging from inflammatory and hyperplastic lesions to premalignant and malignant neoplasms [2]. Benign prostatic hyperplasia (BPH) is the most frequently encountered non-neoplastic lesion and

commonly develops in men above 50 years of age due to hormonal and stromal-epithelial interactions [3]. The prevalence of BPH increases progressively with aging and significantly affects quality of life through urinary obstruction and associated complications [4].

Carcinoma of the prostate is currently one of the leading malignancies among men globally and represents a major public health concern [5]. The incidence of prostate carcinoma has shown a rising trend in developing countries, including India, due to increased life expectancy, improved screening practices, and growing awareness regarding prostate health [6]. Histopathological examination remains the gold standard for diagnosis and classification of prostatic lesions because clinical findings and radiological investigations alone may not reliably differentiate benign from malignant conditions [7].

The histopathological spectrum of prostatic lesions includes benign prostatic hyperplasia, prostatitis, prostatic intraepithelial neoplasia (PIN), and adenocarcinoma [8]. Among these, prostatic intraepithelial neoplasia is considered a significant premalignant lesion associated with an increased risk of invasive carcinoma [9]. Accurate histomorphological evaluation therefore plays a crucial role in disease diagnosis, prognostication, and therapeutic planning [10].

The Gleason grading system remains the most widely accepted histological grading method for prostate carcinoma and provides important prognostic information regarding tumor aggressiveness and clinical outcome [11]. In contemporary practice, the International Society of Urological Pathology (ISUP) Grade Group system complements Gleason grading and improves risk stratification of patients with prostatic adenocarcinoma. Recent advances in pathological classification systems and the WHO Classification of Urinary and Male Genital Tumours have further improved diagnostic standardization and reporting accuracy in prostatic pathology [12].

Prostate-specific antigen (PSA) is an organ-specific glycoprotein secreted by prostatic epithelial cells and serves as an important biochemical marker for prostatic disease evaluation [13]. Elevated serum PSA levels are commonly associated with carcinoma prostate; however, increased PSA may also occur in benign prostatic hyperplasia, prostatitis, urinary retention, and other inflammatory conditions [14]. Despite certain limitations in specificity, PSA screening has significantly improved early detection rates of prostate carcinoma and contributed to timely clinical intervention [15].

Several studies have demonstrated a significant association between serum PSA levels and histopathological patterns of prostatic lesions [16]. Correlation of serum PSA values with histomorphological findings can improve diagnostic accuracy, facilitate risk stratification, and aid in early identification of malignant lesions requiring aggressive management [17]. However, variability in PSA levels among different pathological entities continues to present diagnostic challenges in routine clinical practice.

Limited Indian studies have comprehensively evaluated the relationship between histopathological patterns of prostatic lesions and serum PSA levels in tertiary healthcare settings. Therefore, the present study was undertaken to study the histopathological spectrum of prostatic lesions and determine their association with serum PSA levels in patients presenting to a tertiary care center.

Materials and Methods

Study Design: Retrospective observational study.

Study Duration: Three years (January 2022 to December 2024).

Study Place: Department of Pathology, All India Institute of Medical Sciences, Patna, Bihar, India.

Sample Size: A total of 210 prostate specimens were included in the study.

Inclusion Criteria

- Prostate specimens obtained through transurethral resection of prostate (TURP), needle biopsy, or prostatectomy.
- Patients with available serum PSA records.
- Adequately preserved histopathological specimens.

Exclusion Criteria

- Inadequate or autolyzed tissue specimens.
- Cases with incomplete clinical or PSA data.
- Previously treated cases of prostatic carcinoma.

Data Collection: Clinical details including age, presenting complaints, serum PSA levels, and relevant radiological findings were retrieved from hospital records. Histopathological slides were reviewed and lesions were classified according to the WHO Classification of Urinary and Male Genital Tumours (2022).

Histopathological Examination: Tissue specimens were fixed in 10% neutral buffered formalin, processed routinely, embedded in paraffin wax, sectioned at 4–5 μm thickness, and stained with hematoxylin and eosin (H&E). Histopathological diagnoses were rendered based on established morphological criteria. Cases of prostatic adenocarcinoma were graded using the Gleason grading system and categorized according to the International Society of Urological Pathology (ISUP) Grade Group classification.

Parameters Evaluated

1. Age distribution of patients.
2. Histopathological spectrum of prostatic lesions.
3. Distribution of prostatic lesions according to age groups.
4. Serum PSA levels in various histopathological lesions.
5. Correlation between serum PSA levels and histopathological diagnosis.
6. Gleason score and ISUP Grade Group distribution in prostatic adenocarcinoma.

Statistical Analysis: Data were analyzed using IBM SPSS Statistics software version 26.0. Continuous variables were expressed as mean ± standard deviation, while categorical variables were expressed as frequency and percentage. Associations between categorical variables were assessed using the Chi-square test. Differences in mean PSA levels among various histopathological groups were analyzed using one-way analysis of variance (ANOVA). A p-value of less than 0.05 was considered statistically significant.

Ethical Consideration: Institutional ethical approval was waived owing to the retrospective nature of the study. All patient information was anonymized, and confidentiality was maintained throughout the study in accordance with institutional ethical guidelines.

Results

A total of 210 prostate specimens received in the Department of Pathology during the study period were analyzed histopathologically and correlated with serum prostate-specific antigen (PSA) levels. The lesions were categorized into benign, premalignant, and malignant groups. Benign prostatic hyperplasia (BPH) constituted the predominant lesion identified in the study population.

Age Distribution of Patients: The age of patients ranged from 42 to 89 years, with the majority of cases occurring in the 61–70 years age group (38.1%), followed by 71–80 years (27.6%). The mean age at presentation was 66.8 ± 9.4 years. Detailed age distribution is shown in Table 1 and graphically represented in Figure 1.

Table 1: Age Distribution of Patients with Prostatic Lesions (n = 210)

Age Group (Years)	Number of Cases (n)	Percentage (%)
41–50	18	8.6
51–60	46	21.9
61–70	80	38.1
71–80	58	27.6
>80	8	3.8
Total	**210**	**100**

The majority of prostatic lesions were observed in patients above 60 years of age.

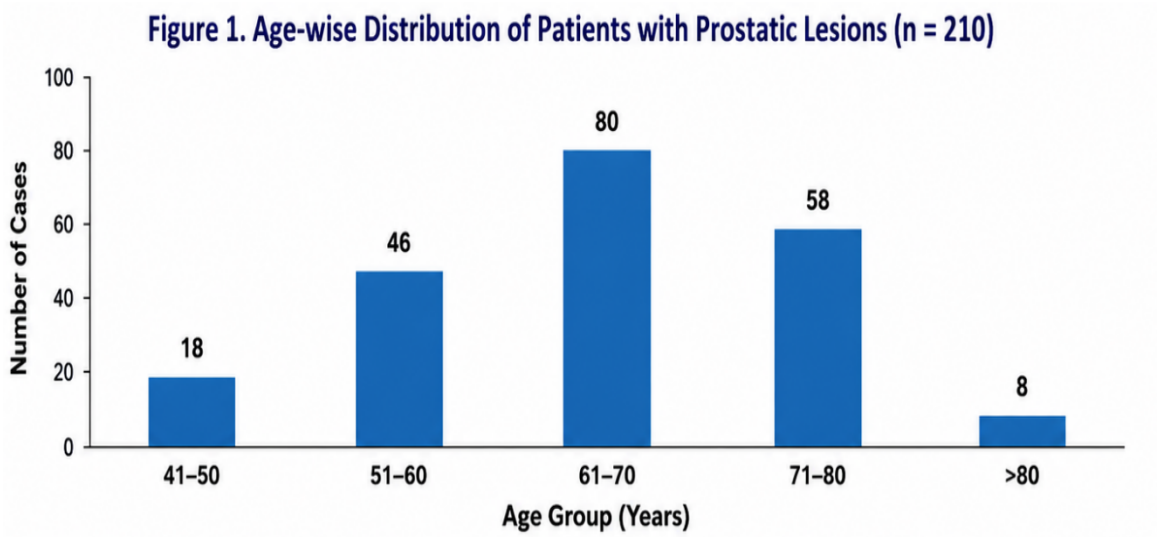

Figure 1. Age-wise Distribution of Patients with Prostatic Lesions.

Age-wise Distribution of Histopathological Lesions: To assess the relationship between age and histopathological diagnosis, lesions were analyzed according to age groups. Benign prostatic hyperplasia was predominantly observed in the sixth and seventh decades, whereas adenocarcinoma prostate was more common in patients above 70 years of age (Table 2, Figure 2).

Table 2: Age-wise Distribution of Histopathological Lesions

Age Group (Years)	BPH	BPH with Prostatitis	PIN	Adenocarcinoma	Total
41–50	12	4	1	1	18
51–60	28	10	4	4	46
61–70	48	18	3	11	80
71–80	26	9	5	18	58
>80	4	1	1	2	8
Total	**118**	**42**	**14**	**36**	**210**

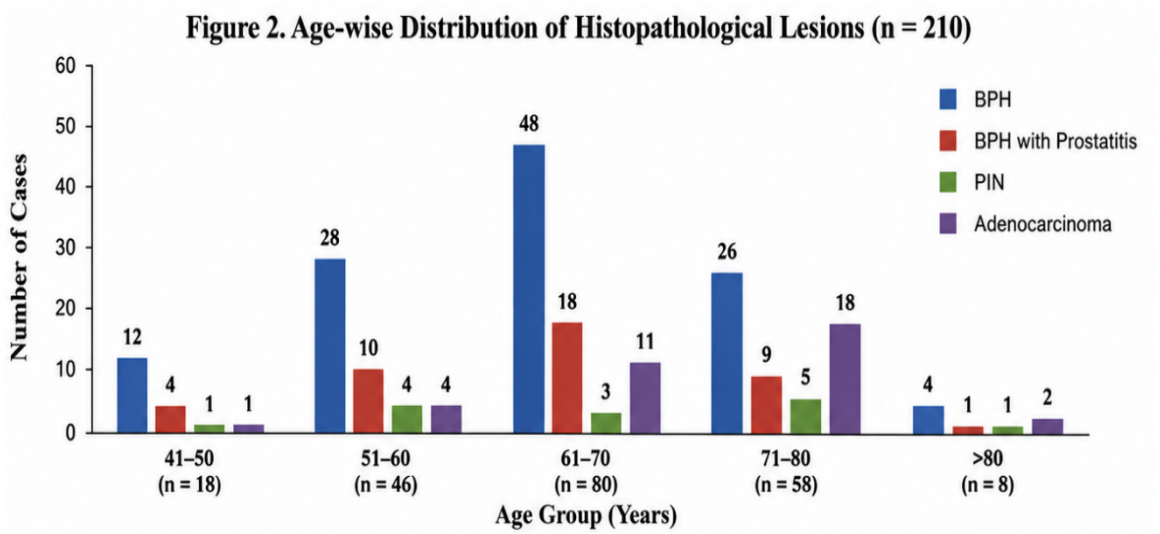

Figure 2: Age-wise Distribution of Histopathological Lesions.

Histopathological Spectrum of Prostatic Lesions: Among the 210 cases studied, benign lesions constituted the majority. Benign prostatic hyperplasia without associated prostatitis was identified in 118 cases (56.2%), while BPH with prostatitis accounted for 42 cases (20.0%). Premalignant lesions in the form of prostatic intraepithelial neoplasia (PIN) were observed in 14 cases (6.7%). Adenocarcinoma prostate constituted 36 cases (17.1%). The histopathological distribution is detailed in Table 3 and illustrated in Figure 3.

Table 3: Histopathological Distribution of Prostatic Lesions (n = 210)

Histopathological Diagnosis	Number of Cases (n)	Percentage (%)
Benign prostatic hyperplasia	118	56.2
BPH with prostatitis	42	20.0
Prostatic intraepithelial neoplasia	14	6.7
Adenocarcinoma prostate	36	17.1
Total	**210**	**100**

Benign prostatic hyperplasia was the most frequently encountered lesion in the present study.

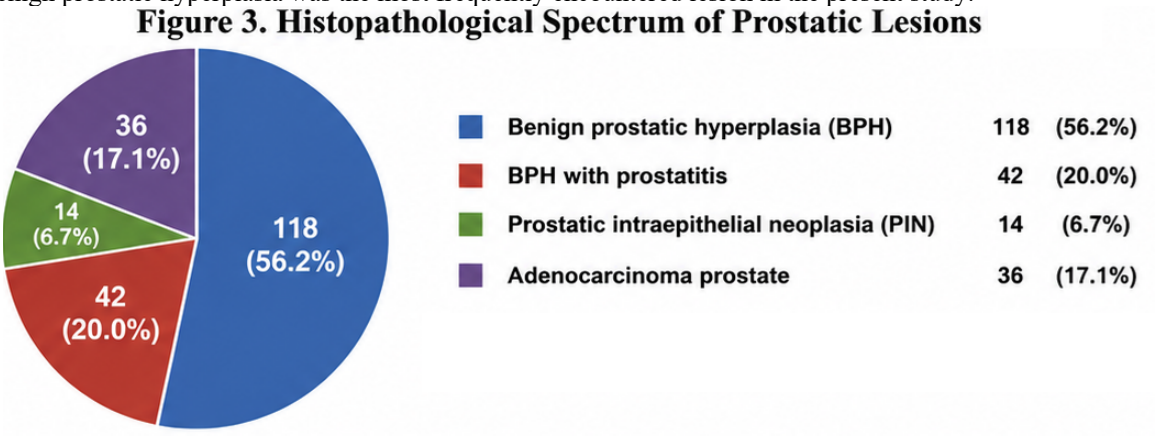

Figure 3: Histopathological Spectrum of Prostatic Lesions.

Correlation Between Serum PSA Levels and Histopathological Diagnosis: Serum PSA levels demonstrated significant variation among different histopathological lesions. Most benign lesions showed PSA levels below 10 ng/mL, whereas malignant lesions predominantly demonstrated PSA levels greater than 20 ng/mL. Elevated PSA levels were significantly associated with malignant pathology (Chi-square = 52.84, $p < 0.001$) (Table 4, Figure 4).

Table 4: Correlation Between Serum PSA Levels and Histopathological Diagnosis

Histopathological Diagnosis	PSA <4	PSA 4–10	PSA 10–20	PSA >20	Total
Benign prostatic hyperplasia	34	68	14	2	118
BPH with prostatitis	6	24	10	2	42
Prostatic intraepithelial neoplasia	1	6	5	2	14
Adenocarcinoma prostate	0	4	10	22	36
Total	**41**	**102**	**39**	**28**	**210**

Chi-square value = 52.84
p-value < 0.001

Higher serum PSA levels were significantly associated with malignant prostatic lesions.

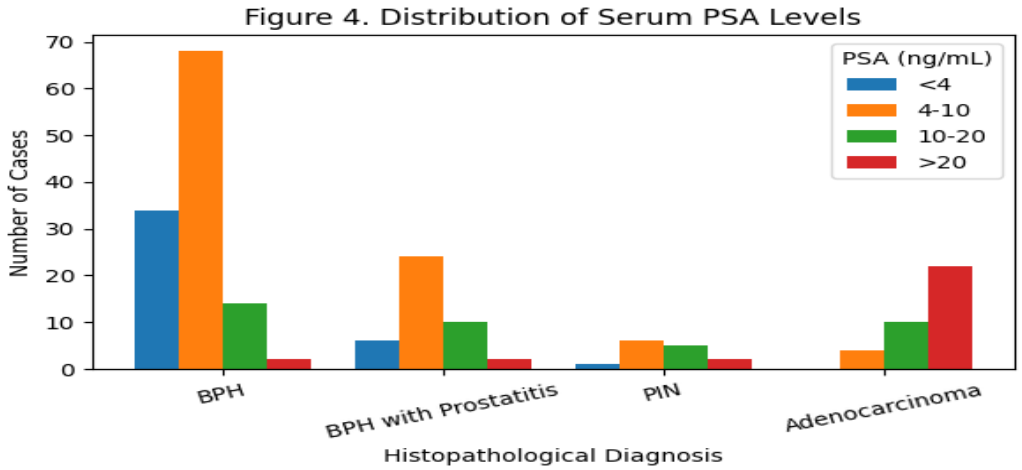

Figure 4: Distribution of Serum PSA Levels Across Histopathological Diagnoses.

Gleason Score and ISUP Grade Group Distribution in Prostatic Adenocarcinoma: Among the 36 cases of adenocarcinoma prostate, Gleason score 7 was the most common histological grade. Gleason score 7 cases were further categorized into Gleason score 3+4 and Gleason score 4+3 according to the ISUP Grade Group classification (Table 5, Figure 5).

Table 5: Gleason Score and ISUP Grade Group Distribution in Adenocarcinoma Prostate (n = 36)

Gleason Score	ISUP Grade Group	Number of Cases (n)	Percentage (%)
≤6	Grade Group 1	9	25.0
3+4=7	Grade Group 2	8	22.2
4+3=7	Grade Group 3	6	16.7
8	Grade Group 4	5	13.9
9–10	Grade Group 5	8	22.2
Total	—	**36**	**100**

Grade Group 2 (Gleason score 3+4=7) was the most frequently observed category.

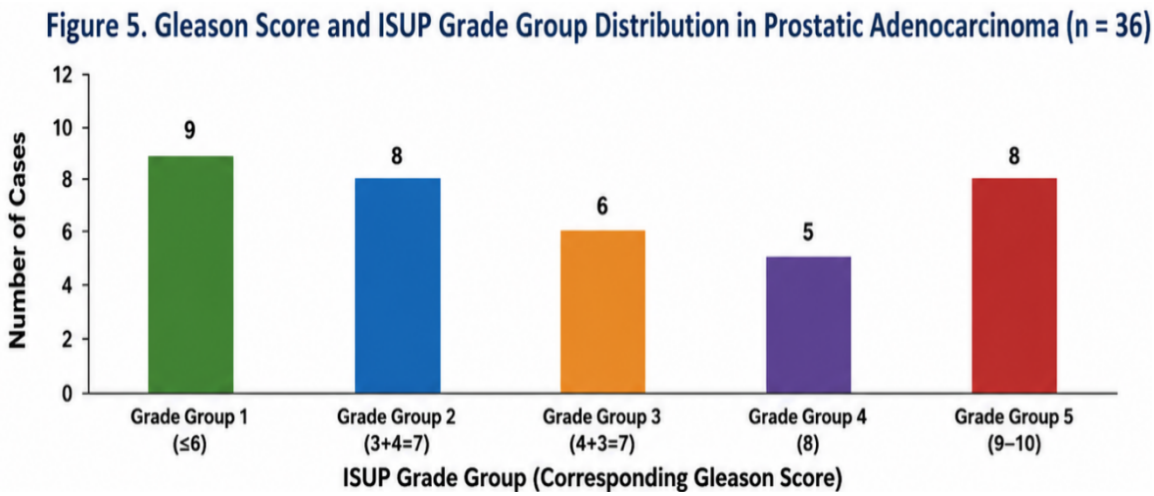

Figure 5: Gleason Score and ISUP Grade Group Distribution in Prostatic Adenocarcinoma.

Mean Serum PSA Levels in Different Prostatic Lesions: The mean serum PSA value was highest in adenocarcinoma prostate (29.8 ± 11.6 ng/mL), whereas benign lesions demonstrated comparatively lower PSA values. The differences in mean PSA levels among histopathological groups were statistically significant (ANOVA F-value = 33.21, $p < 0.001$) (Table 6, Figure 6).

Table 6: Mean Serum PSA Levels in Various Histopathological Lesions

Histopathological Diagnosis	Mean PSA (ng/mL)	Standard Deviation
Benign prostatic hyperplasia	6.8	3.2
BPH with prostatitis	8.9	4.1
Prostatic intraepithelial neoplasia	12.7	5.6
Adenocarcinoma prostate	29.8	11.6

ANOVA F-value = 33.21
p-value < 0.001

Malignant lesions demonstrated significantly elevated serum PSA levels compared with benign lesions.

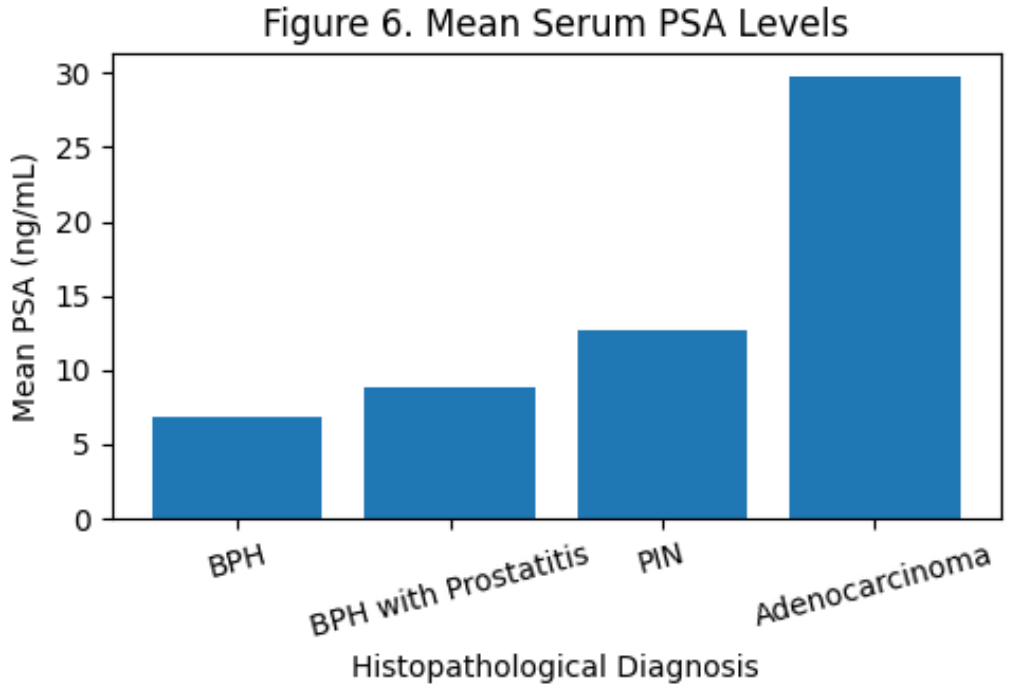

Figure 6: Mean Serum PSA Levels in Different Histopathological Lesions.

Association Between Age and Malignant Lesions: The frequency of malignant lesions increased significantly with advancing age. Patients above 70 years demonstrated a significantly higher incidence of adenocarcinoma compared with younger age groups.

Table 7: Association Between Age Group and Malignant Lesions

Age Group (Years)	Malignant Cases n (%)	Non-Malignant Cases n (%)	Total
41–50	1 (5.6)	17 (94.4)	18
51–60	4 (8.7)	42 (91.3)	46
61–70	11 (13.8)	69 (86.2)	80
71–80	18 (31.0)	40 (69.0)	58
>80	2 (25.0)	6 (75.0)	8
Total	**36**	**174**	**210**

Chi-square value = 18.34
p-value = 0.001

Increasing age showed a significant association with malignant prostatic lesions.

Overall Statistical Summary

The present study demonstrated that benign prostatic hyperplasia was the most common histopathological lesion encountered. Serum PSA levels showed a statistically significant correlation with malignant lesions, particularly adenocarcinoma prostate. Increasing age was significantly associated with a higher incidence of malignancy. Histopathological examination combined with serum PSA estimation provided improved diagnostic accuracy in the evaluation of prostatic lesions.

Discussion

In the present study, benign prostatic hyperplasia (BPH) was identified as the most common lesion, accounting for 56.2% of cases. Similar observations have been reported by Shenoy et al. [19], Anushree and Venkatesha [20], and Kumar et al. [21], who also found BPH to be the predominant prostatic lesion in patients undergoing prostatectomy or biopsy evaluation.

The majority of patients in the present study belonged to the 61–70 years age group, which is consistent with the age-related increase in prostatic diseases reported in previous studies [20]. Hormonal imbalance, stromal proliferation, and age-associated cellular changes are recognized contributors to the development of BPH and prostatic carcinoma in older males [21]. Furthermore, the frequency of malignant lesions increased significantly with advancing age in the present study, supporting the well-established association between aging and prostate cancer.

BPH associated with prostatitis accounted for 20.0% of cases. Chronic inflammatory changes in the prostate are commonly linked to urinary tract infections and may contribute to elevated PSA levels [22]. Inflammatory lesions may clinically and biochemically mimic malignancy, thereby complicating diagnostic interpretation [23]. This emphasizes the importance of histopathological examination in distinguishing benign inflammatory conditions from neoplastic lesions.

Prostatic intraepithelial neoplasia (PIN) was observed in 6.7% of cases. PIN is widely recognized as a premalignant lesion with an established association with the subsequent development of invasive adenocarcinoma [24]. Therefore, careful histomorphological evaluation and appropriate clinical follow-up are essential for patients diagnosed with PIN.

Adenocarcinoma prostate constituted 17.1% of cases in the present study, which is comparable to findings reported in other Indian studies evaluating prostatic lesions and their correlation with serum PSA levels [19–21,25]. The overall distribution of histopathological lesions observed in the present study is thus broadly consistent with previously published hospital-based studies, with BPH representing the predominant lesion and adenocarcinoma accounting for a smaller but clinically significant proportion of cases.

Serum PSA levels demonstrated a significant association with histopathological diagnosis. Mean serum PSA levels were significantly higher in malignant lesions compared with benign lesions ($p<0.001$), a finding that is consistent with previous studies demonstrating a significant relationship between elevated PSA levels and prostate carcinoma [20,21]. Most adenocarcinoma cases in the present study exhibited PSA levels greater than 20 ng/mL, further supporting the utility of PSA as an important biomarker in the detection and risk stratification of prostatic malignancy.

A statistically significant association was also observed between increasing PSA levels and malignant histopathological diagnosis. Although elevated PSA values may occur in benign conditions such as BPH and prostatitis, markedly elevated PSA levels were predominantly associated with malignant lesions [20]. Therefore, serum PSA should be interpreted in conjunction with histopathological findings rather than as an isolated diagnostic marker.

With respect to tumor grading, Gleason score 7 was the most frequently observed category among adenocarcinoma cases. Contemporary pathological practice further stratifies Gleason score 7 tumors into ISUP Grade Group 2 (3+4) and Grade Group 3 (4+3), as these categories differ in biological behavior and prognosis [11]. The predominance of intermediate-grade tumors in the present study has important implications for prognostic assessment and therapeutic decision-making.

The findings of the present study underscore the importance of combined evaluation of serum PSA levels and histopathological examination in the assessment of prostatic lesions. While PSA serves as a valuable screening and risk-stratification tool, definitive diagnosis and grading rely on histopathological evaluation. Early identification of malignant lesions through this combined approach may facilitate timely intervention and improve patient outcomes.

Limitations

The present study has certain limitations. First, it was a retrospective study conducted at a single tertiary care center, which may limit the generalizability of the findings to the broader population. Second, the sample size was relatively limited, particularly for premalignant and malignant lesions. Third, long-term follow-up data were not available; therefore, the prognostic significance of histopathological findings and serum PSA levels could not be assessed. Immunohistochemical evaluation and molecular studies were not performed, which may have provided additional diagnostic and prognostic information in selected cases. Furthermore, serum PSA levels may be influenced by factors such as prostatitis, urinary retention, and instrumentation, which could not be completely controlled in this retrospective analysis. Larger multicentric prospective studies with long-term follow-up are recommended to validate the present findings and further clarify the relationship between histopathological patterns and serum PSA levels.

Conclusion

Benign prostatic hyperplasia was the most common prostatic lesion observed in the present study, with the highest frequency occurring in the sixth and seventh decades of life. Serum PSA levels showed a significant association with histopathological patterns, particularly in malignant lesions, where markedly elevated PSA values were observed. Increasing age was significantly associated with a higher incidence of prostatic malignancy. Histopathological examination remains the gold standard for the diagnosis of prostatic lesions, while serum PSA serves as a valuable adjunctive biomarker. The combined evaluation of serum PSA and histopathological findings enhances diagnostic accuracy and facilitates the early detection and appropriate management of prostatic carcinoma.

References

1. Berry SJ, Coffey DS, Walsh PC, Ewing LL. The development of human benign prostatic hyperplasia with age. J Urol. 1984;132(3):474-479.
2. Epstein JI, Netto GJ. Biopsy Interpretation of the Prostate. 6th ed. Philadelphia: Wolters Kluwer; 2020.
3. McNeal JE. Origin and evolution of benign prostatic enlargement. Invest Urol. 1978;15(4):340-345.
4. Roehrborn CG. Benign prostatic hyperplasia: an overview. Rev Urol. 2005;7(Suppl 9):S3-S14.
5. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018;68(6):394-424.
6. Center MM, Jemal A, Lortet-Tieulent J, Ward E, Ferlay J, Brawley O, et al. International variation in prostate cancer incidence and mortality rates. Eur Urol. 2012;61(6):1079-1092.
7. Humphrey PA. Histopathology of prostate cancer. Cold Spring Harb Perspect Med. 2017;7(10):a030411.
8. Rosai J. Rosai and Ackerman's Surgical Pathology. 11th ed. Philadelphia: Elsevier; 2018.
9. Bostwick DG. Prostatic intraepithelial neoplasia (PIN): current concepts. Mod Pathol. 2000;13(3):360-379.
10. Bostwick DG, Cheng L. Urologic Surgical Pathology. 4th ed. Philadelphia: Elsevier; 2019.
11. Gleason DF. Classification of prostatic carcinomas. Cancer Chemother Rep. 1966;50(3):125-128.
12. WHO Classification of Tumours Editorial Board. WHO Classification of Tumours: Urinary and Male Genital Tumours. 5th ed. Lyon: International Agency for Research on Cancer; 2022.
13. Stamey TA, Yang N, Hay AR, McNeal JE, Freiha FS, Redwine E. Prostate-specific antigen as a serum marker for adenocarcinoma of the prostate. N Engl J Med. 1987;317(15):909-916.
14. Oesterling JE. Prostate-specific antigen: a critical assessment of the most useful tumor marker for adenocarcinoma of the prostate. J Urol. 1991;145(5):907-923.
15. Catalona WJ, Smith DS, Ratliff TL, Dodds KM, Coplen DE, Yuan JJ, et al. Measurement of prostate-specific antigen in serum as a

screening test for prostate cancer. N Engl J Med. 1991;324(17):1156-1161.
16. Loeb S, Catalona WJ. What to do with an abnormal PSA test. Oncologist. 2008;13(3):299-305.
17. Thompson IM, Pauler DK, Goodman PJ, Tangen CM, Lucia MS, Parnes HL, et al. Prevalence of prostate cancer among men with a prostate-specific antigen level ≤4.0 ng/mL. N Engl J Med. 2004;350(22):2239-2246.
18. Jemal A, Siegel R, Ward E, Hao Y, Xu J, Thun MJ. Cancer statistics, 2008. CA Cancer J Clin. 2008;58(2):71-96.
19. Shenoy VG, Thota A, Shankar R, Desai MG. Histopathological spectrum of prostatic lesions with reference to age distribution in patients undergoing prostatectomy. Indian J Pathol Microbiol. 2012;55(4):557-562.
20. Anushree CN, Venkatesha MG. Morphological spectrum of prostatic lesions and correlation with prostate-specific antigen levels: a hospital-based study. J Clin Diagn Res. 2015;9(12):EC01-EC04.
21. Kumar R, Verma N, Singh AK. Histomorphological study of prostatic lesions and correlation with serum PSA levels. Int J Res Med Sci. 2018;6(5):1562-1567.
22. Mishra VC, Allen DJ, Nicolaou C, Sharif H, Hudd C, Karim OM, et al. Does prostate growth confound prostate-specific antigen density? BJU Int. 2007;99(2):327-330.
23. Iczkowski KA, Lucia MS. Current perspectives on prostate pathology. Arch Pathol Lab Med. 2011;135(3):297-303.
24. Montironi R, Mazzucchelli R, Lopez-Beltran A, Cheng L, Scarpelli M. Precancerous lesions and conditions of the prostate: from morphological and biological characterization to chemoprevention. Ann N Y Acad Sci. 2007;1089:169-184.
25. Sinha S, Ranjan P, Singh V, Kumar A, Prasad R. Histopathological patterns of prostatic lesions and correlation with serum PSA levels in a tertiary care hospital. Indian J Cancer. 2021;58(2):214-219.