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Histopathological Spectrum of Prostatic Lesionsina Tertiary Care Centre

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Abstract

Globally, diseases of the prostate gland contribute significantly to morbidity and mortality in elderly males. The spectrum of prostatic lesions includes both non-neoplastic and neoplastic pathologies. Among non-neoplastic conditions, chronic non-specific prostatitis and benign prostatic hyperplasia (BPH) are predominant. Prostate cancer remains the sixth leading cause of cancer among men worldwide, with diagnosis often requiring histopathological confirmation due to overlapping features with benign mimickers.This study evaluates various histopathological patterns of prostatic lesions,correlating them with clinical presentations and serum PSA levels.

Keywords

Histopathology, Benign prostatic hyperplasia, Prostatecancer, Prostate-specific antigen

Introduction

Prostatic diseases are common in aging men, presenting as benign or malignant lesions, with BPH being the most frequent. Prostatic carcinoma is responsible for substantial morbidity and mortality, particularly in those above 60 years. Serum PSA levels, digital rectal examination, and imaging modalities aid diagnosis; however, histopathology remains the gold standard (Ref-3, Ref-7, Ref-12). The overlapping histological features between benign and malignant conditions may complicate diagnosis, particularly in small biopsy samples.

This study focuses on the histopathological spectrum of prostatic lesions in a tertiary care centre and explores their correlation with clinical and biochemical parameters,including PSA levels.

Materials and Methods

A retrospective study of 30 histopathologically diagnosed cases of prostatic lesions was conducted over five months in the Department of Pathology, Rama Medical College & Hospital, Hapur. Clinical details and PSA levels were retrieved from hospital records.

InclusionCriteria

- Transurethralresectionoftheprostate(TURP)specimens
- Coreneedlebiopsies

Exclusion Criteria

- Inadequate tissue samples
- Specimens where inflammation obscured glandular epithelium

StudyParameters

- Histopathological type of lesion
- PSA level correlation
- For malignant cases: Gleason's score and grade group assessment (Ref-4, Ref-9)

Results

Table1: Distribution of Prostatic Lesions and PSA Levels (n-30)

Category	Number of Cases	Percentage (%)	Mean PSA (ng/ml)
Benign Prostatic Hyperplasia (BPH)	10	33.3%	7.40
BPH with Non-specific Prostatitis	6	20%	7.40
BPHwithAdenosis	2	6.6 %	7.40
BPHwithBasalCellHyperplasia	2	6.6 %	7.40
Adenocarcinoma(Malignant)	10	33.3%	100.05

Out of 30 cases,20 were benign and 10 were malignant.

- Meanage (benign):65.68± 8.56 years
- Meanage (malignant):72.41± 9.34 years

Benign Lesions(n= 20)

- 50% (10/20):BPH
- 30% (6/20):BPH with chronic prostatitis

- 10% (2/20):BPH with adenosis
- 10%(2/20):BPH with basal cell hyperplasia (Ref-2, Ref-10)

MalignantLesions(n=10)

All cases were adenocarcinoma.

- Most common Gleason score:9
- Most common grade group:V(Ref-5,Ref-8)

PSACorrelation

- Benign lesions: Mean PSA=7.40ng/mL
- Malignant lesions:PSA elevated upto100.05ng/mL(Ref-1,Ref-16)

Discussion

Prostatic lesions frequently affect older males,with BPH being the most prevalent benign condition. In this study, malignant cases showed significantly higher PSA levels compared to benign ones, although PSA alone cannot reliably distinguish between the two (Ref-6,Ref-11). Histopathological examination remains vital for definitive diagnosis.

The majority of adenocarcinomas exhibited high Gleason scores (9), correlating with aggressive disease patterns. Similar findings have been documented in prior studies (Ref-13, Ref-14). BPH with associated inflammation may raise PSA levels, posing diagnostic challenges.

Conclusion

The most common prostatic lesions in this study were benign, predominantly BPH. Prostatic carcinoma accounted for one-third of cases, of ten presenting with elevated PSA levels (>20 ng/mL). Nevertheless, normal PSA values cannot exclude malignancy. Accurate diagnosis requires a combination of clinical assessment, PSA levels, and confirmatory histopathology.

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