Diagnostic Dilemma in Reporting of Cribriform Pattern of Prostate Carcinoma: A Retrospective Review

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Introduction

- Invasive cribriform carcinoma (ICC) and intraductal carcinoma (IDC) of prostate are aggressive histologic subtypes of prostate carcinoma (PCa), affecting clinical management.
- Both have similar cribriform morphology, molecular features, clinical significance, and recommendations by the International Society of Urological Pathology (ISUP) and Genitourinary Pathology Society (GUPS) for reporting their presence in pathology specimens.
- Distinguished by the presence of basal cells in IDC, and conflicting recommendations from ISUP and GUPS for incorporation of IDC in final Gleason grading: ISUP advocates, while GUPS opposes.
- The contradictory opinions of the 2 societies, plus lack of stringent morphologic criteria, has driven the utilization of basal cell markers, PIN4, to precisely identify these morphologically similar entities, impacting cost and turnaround times for final diagnoses.
- This study aims to evaluate the challenges in distinguishing these entities morphologically and the extent of PIN4 utilization in clinical practice.

Methods

- Retrospective study of cases conducted between 01/2022-02/2025
- Biopsies from 92 patients reviewed
- Clinicopathological data, including age, PSA level, Gleason scores and PI-RADS scores from MRI, was evaluated.

Diagnosis	PIN4 utilized (n, %)	PIN4 not utilized (n,%)	Total Cases (n, %)
IDC	3 (3.3%)	3 (3.3%)	6 (6.6%)
ICC	29 (31.5%)	27 (29.3)	56 (60.9%)
IDC + ICC	24 (26.1%)	6 (6.5%)	30 (32.6%)

Abbreviations: ICC, Invasive cribriform carcinoma and IDC, Intraductal carcinoma.

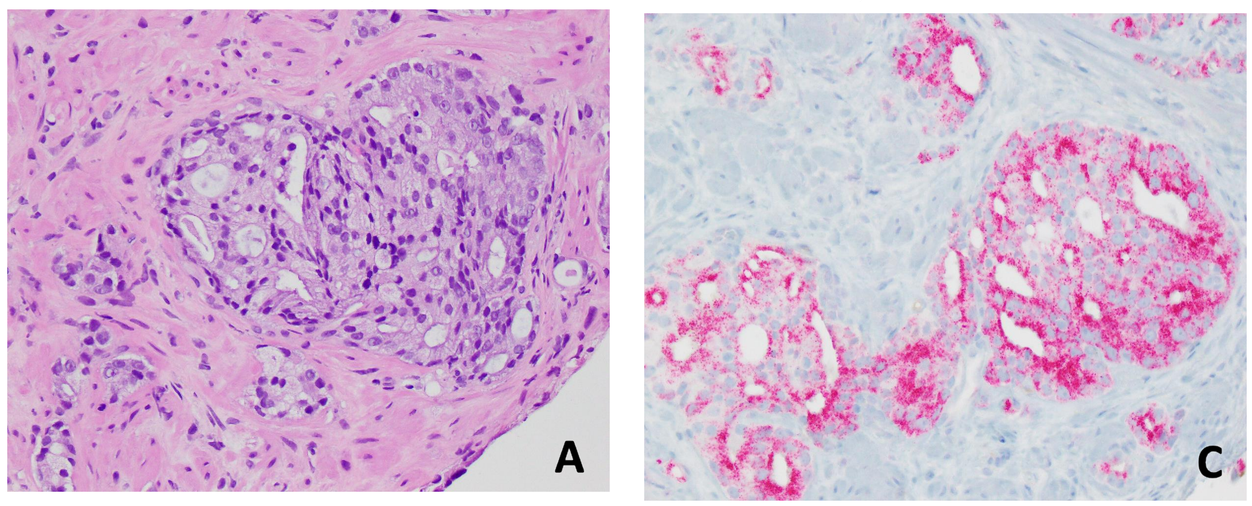

Figure 1. A & B. Cribriform prostate carcinoma (H & E). **Figures C & D** PIN4 staining helps distinguish these lesions into invasive cribriform carcinoma (A & C); and Intraductal carcinoma (B & D) by the absence and presence of basal cells respectively

Results

- In our 92-patient cohort (Table), 56 cases (60.9%) required PIN4 staining to distinguish IDC from ICC (*P* = .03). This statistically significant finding highlights the need for PIN4-staining in separating these 2 almost similar cribriform PCa forms.

Discussion

- This study suggests that classifying these lesions collectively as cribriform prostate carcinoma without routine PIN4 staining may be clinically meaningful, potentially reducing time and costs without compromising patient care.

Conclusion

- Nearly 61% (p = .03) of the cases required PIN4 staining for precise ICC and IDC categorization. For these lesions with similar prognostic implications and therapeutic indications, staining increases turnaround time and cost without providing additional benefit besides further distinction.
- Therefore, we propose revisiting the conflicting recommendations of the 2 societies and additionally classifying these lesions collectively as cribriform prostate carcinoma rather than categorizing them individually.
- This approach would be more practical and cost-effective without compromising patient care.

References

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