

Clear-cell basal cell carcinoma can be distinguished from trichilemmoma by Ber-EP4 and CD34 expression: A case series

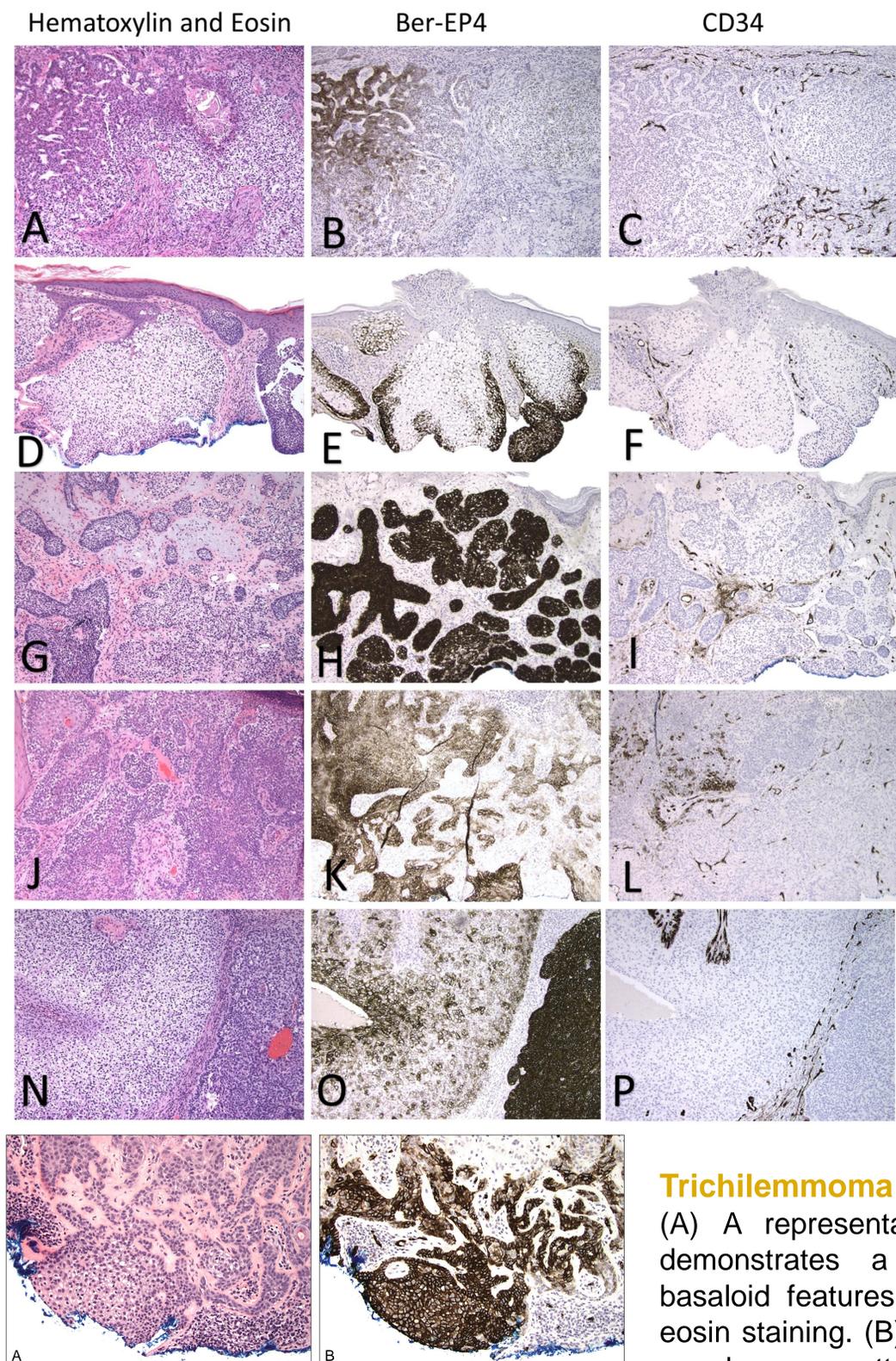
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Introduction

Basal cell carcinoma (BCC) is one of the most common diagnoses in dermatopathology. While most BCCs are readily diagnosed based on histopathologic features, certain subtypes of BCCs such as BCC with clear-cell changes may mimic trichilemmoma, a benign entity, especially in a small, superficial, or fragmented biopsy specimens. Criteria to effectively distinguish these two entities have not been investigated previously. We propose the use of Ber-EP4 and CD-34 immunohistochemical (IHC) stains to distinguish these two clear-cell neoplasms.

Methods

Formalin fixed paraffin embedded sections from clear-cell BCC (n=5) and trichilemmomas (n=7) were stained with hematoxylin and eosin, Ber-Ep4, and CD-34. The findings were analyzed by both authors, including JMS, a board-certified dermatopathologist.



Clear-cell-BCC

Immunohistochemical staining of five cases of clear-cell BCC. Each row represents one individual case.

(A, D, G, J and N): Hematoxylin and eosin staining of each case of clear-cell-BCC.

(B, E, H, K and O): Immunohistochemical staining for Ber-EP4 shows intense positive staining involving the areas of more conventional BCC; variable membranous staining of the clear-cells.

(C, F, I, L and P): The clear cells are negative for CD-34 immunohistochemical staining in 4/5 cases and in one case shows partial membranous staining (L).
(Magnification: 100X)

Trichilemmoma

(A) A representative case of trichilemmoma demonstrates a mixture of clear-cell and basaloid features as seen in hematoxylin and eosin staining. (B) CD-34 staining shows strong membranous pattern. (Magnification: 100x).

Results

IHC staining with Ber-EP4, a marker of follicular germinative differentiation is preserved in all cases of clear-cell BCC, whereas CD-34, which labels trichilemmoma in a membranous fashion is absent in 4/5 cases and expressed in only limited fashion in 1/5 cases. In contrast, all cases of trichilemmoma show membranous staining with CD-34 and are negative for Ber-EP4 expression.

Discussion

In addition to its (CD-34 & Ber-EP4) diagnostic utility in differentiating clear-cell BCC and trichilemmoma; negative CD-34 staining in clear-cell BCC indicates that it does not have trichilemmal differentiation.

Conclusion

Differential expression of Ber-EP4 and CD-34 can be used to distinguish between trichilemmoma and clear-cell BCC in challenging situations.

References

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Nothing to disclose