ATYPICAL FIBROXANTHOMA AND SPINDLE CELL SQUAMOUS CELL CARCINOMA: RE-EVALUATION OF IMMUNOHISTOCHEMICAL PANEL

Viktoryia Kazlouskaya, MD, PhD; Karan Lal BS, Elen Blochin, MD, PhD

Ackerman Academy of Dermatopathology, NY

Introduction

Atypical fibroxanthoma (AFX) is a spindle cell neoplasm of unknown origin. AFX has no specific histopathological features and should be differentiated from other spindle cell neoplasms such as spindle cell/desmoplastic malignant melanoma (MM), leomyosarcoma (LMS) and spindle-cell squamous cell carcinoma (SCC). While immunostains and histopathological features reliably help to exclude melanoma and LMS, the distinction between AFX and spindle cell SCC remains to be the most challenging. Herein we evaluate the immunohistochemical panel applied in the differential diagnosis of AFX and spindle cell SCCs.

Materials/methods

Nineteen spindle cell SCC and 18 AFX biopcies were studied. All tumors were negative for melanocytic markers (S100 and MelanA) and desmin, excluding respectively MM and LMS. Criteria for classification of a neoplasm as a spindle cell SCC is positivity with at least one cytokeratin. Immunostaining with CD68, CD10, pan-cytokeratin (pan-CK), CK903 and p63 was studied.

Results

All tumors (19 SCCs and 18 AFXs) were positive for CD68 and CD10. Pan-CK was not found to be positive in any of 18 AFXs and was positive in 12/16 SCCs. CK903 was negative in all 18 AFXs and positive in 18/19 SCCs. The SCC that was negative for CK903, was positive for pan-CK, that led to its correct diagnosis. Focal expression of immunostain was seen in 4 pan-CK and 4 CK903 stained sections. P63 staining was performed in 3 SCCs and was negative.

Conclusions

Although AFX is often considered to be of fibrohistiocytic origin, CD68 expression is not unique for AFX and is seen in all spindle cell SCCs. CD10 is also not helpful in the differential diagnosis of AFX and spindle SCCs. The combination panel of pan-CK and CK903 staining is the best panel to diagnose spindle cell SCC. While CK903 seems to be more sensitive (0.95 vs 0.75), pan-CK is also helpful in some settings. In our study p63 immunostain seemed to be less sensitive than CK903 or pan-CK.