A highly atypical cellular pleomorphic sarcomatous-like proliferation arising in a pseudosarcomatous fibroepithelial polyp of the skin

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Introduction

Pseudosarcomatous stromal fibroepithelial polyps are most commonly found on the mesentery or lower female genital tract.[1–10] Although a benign lesion, the polyp is often mistaken for a malignant process due to the atypical histological and immunohistochemical findings. They can exhibit expression of CD34, factor XIIIa, and desmin as well as typically lack expressivity for cytokeratin, S-100 protein, actin, and CD68, and factor VIII.[4] A cutaneous counterpart outside of vulvar and vaginal skin has rarely been reported. Closely related is the pleomorphic fibroma. They too are polypoid and are typically of low cellularity, exhibit senescent atypia and show actin positivity suggesting a myofibroblastic derivation.

Objective

This report describes a pseudosarcomatous stromal polyp with marked atypia originating on the forearm that presented a diagnostic conundrum with respect to both diagnosis and clinical management. The case could represent the cutaneous counterpart of the so called cellular pseudosarcomatous polyp as described by Nucci, Young and Fletcher (2000).[1]

Case Details

A 63-year-old male presented with a 6-month history of rapidly growing progression of a small bleeding blister to a soft, pink papulonodule with keratotic scale on the left upper arm, prompting a biopsy. Areas of lesser cellularity contained bizarre sarcomatous-appearing giant multinucleated cells defining a background morphology typical for a pseudosarcomatous polyp (**Figure 1**). A limited staining pattern was noted for CD30, CD10, CD68, CD168, and Factor XIIIA (**Figure 2**). There was enhanced nuclear staining for Ki-67 in the zone of tumefactive nodular growth in the context of a lesion that appears to be undergoing a rapid evolution (**Figure 3**) was a lack of immunoreactivity for CD45, CD163, langerin, CD1a, CD21, ALK, S100, cytokeratin, and pancytokeratin, as well as negative for smooth muscle actin. The lesion was removed via wide local excision. A final diagnosis was rendered of pseudosarcomatous polyp but with marked atypia, where the possibility of malignant transformation could not be excluded. The morphologic and phenotypic profile was not inconsistent with so called cellular pseudosarcomatous polyp described by Nucci et al. where all cases were reported in the female genital tract.[1]

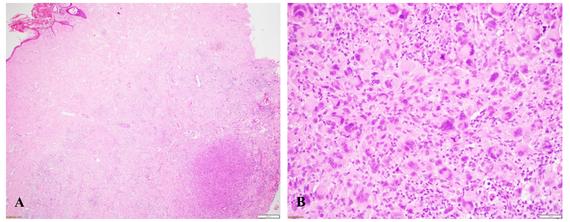


Figure 1. H&E (A) 2x; **(B)** 20x.

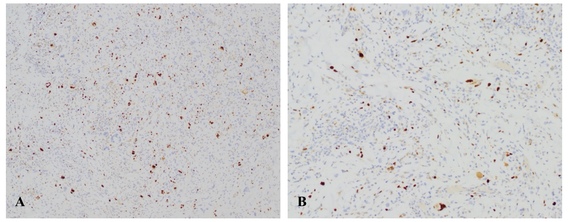
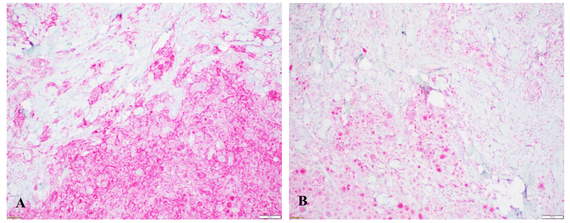


Figure 3. Ki-67 (A) 100x; **(B)** 200x.



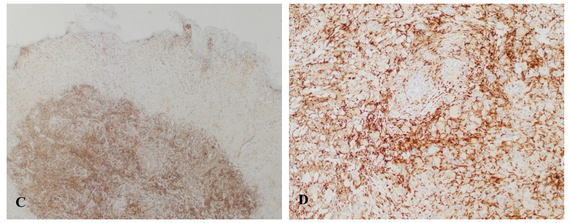


Figure 2. Limited staining patterns. (A) CD10, 10x; **(B)** CD68, 10x; **(C)** Factor XIIIA, 20x; **(D)** Factor XIIIA, 100x.

Conclusions

The pseudosarcomatous fibroepithelial polyp of the skin was first described in 1996 where the authors presented a morphologic parallel with vaginal pseudosarcomatous polyp.[4] The authors proposed that the atypia was more likely reflective of a degenerative phenomenon. A case like ours showing this degree of cellularity and atypia can be a diagnostic challenge and have fallen under the designation of cellular pseudosarcomatous polyp in locations outside of the skin primarily in the genital tract where an alteration in the hormonal milieu has been held to be of pathogenetic significance. It could be difficult in these highly atypical cases to rule out malignant transformation, recognizing there is no literature precedent describing this phenomenon of tumor progression. Hence a wider excision was performed as a safer therapeutic approach in the event the marked atypia herald transformation into a pleomorphic dermal sarcoma.

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