

SHORT COMMUNICATIONS

Superficial Acral Fibromyxoma with Ossification on the Fingertip

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Superficial acral fibromyxomas (SAFM) are soft tissue tumors with a predilection for the extremities that often involve the nail bed. Secondary changes such as ossification and cartilaginous metaplasia are rarely reported.^{1,2} Here we present a unique case of SAFM with ossification.

A 19-year-old woman was referred to our clinic with a painful growth on the distal nailbed of her right third finger (Figure 1). The lesion had been present for a year without any trauma. It was previously treated with cryotherapy and electrocautery for a clinical diagnosis of verruca without any improvement.

Physical examination showed a firm tender skin-colored keratotic papule located on the medial aspect of the distal subungual region of the third finger. An x-ray of the finger revealed a well-circumscribed 13 x 5 mm ossified mass in the subungual region of the distal fingertip without involvement of the underlying bone. She underwent surgical excision of the lesion with histopathology showing fibroblast-derived spindle and stellate-shaped cells suspended in a myxoid stroma without significant nuclear atypia or mitotic figures (Figure 2A) and ossification (Figure 2B). Immunostaining showed tumor cells that were weakly positive for anti-smooth muscle actin and negative for CD34

and S100. The constellation of findings was consistent with diagnosis of SAFM.

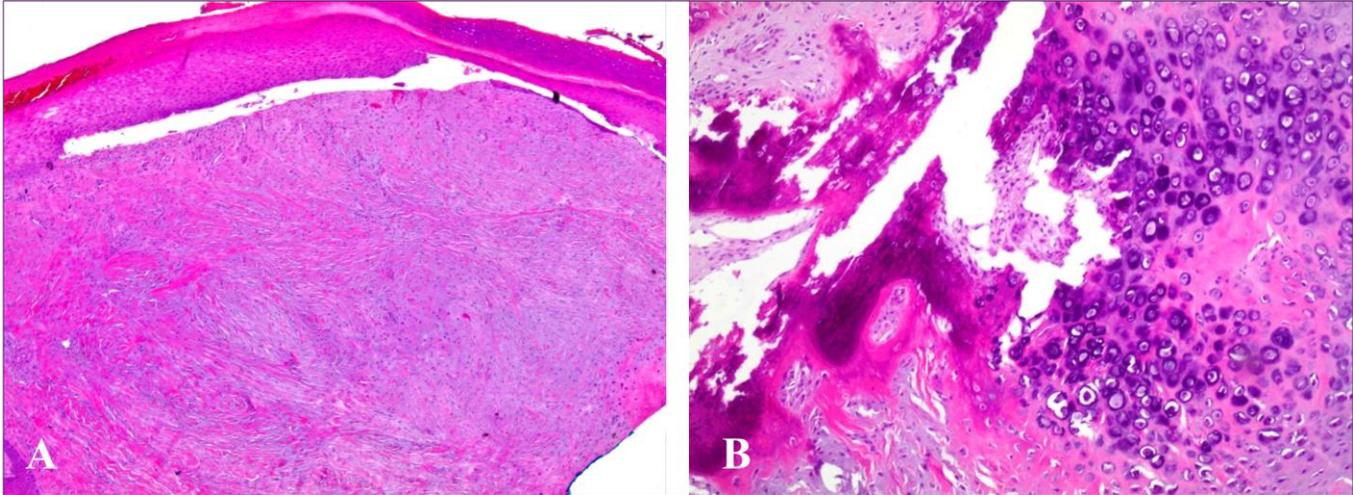
Figure 1. Hyperkeratotic papule in the distal subungual area of the third finger



SAFM is a rare tumor that often involves the nail bed sometimes after trauma, but most patients report no inciting factor.^{3,4} Potential complications include nail disfigurement, ulceration, pain, repeated trauma, and infections.³ However, most SAFM are asymptomatic. It presents as a solitary flesh-colored papule or nodule extending through the dermis with possible extension to underlying subcutaneous tissue, fascia, and periosteum.^{3,5} Metastasis has never been reported, however mass effect can cause local bone erosion and lytic lesions. Osseous

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Figure 2. (A) Representative view (H&E, 40x) of removed tissue showing a well-circumscribed collection of uniform spindle-shaped cells without significant atypia, changes consistent with SAFM. **(B)** Magnification (H&E, 100x) demonstrating ossification



metaplasia, as was seen in our patient, has only been reported once before in the literature.²

SAFM should be kept in mind for masses on the distal extremities especially when there is nailbed involvement. The differential of SAFM includes ossifying fibromyxoid tumor, myxoid dermatofibrosarcoma protuberans, digital fibroma, and verruca vulgaris. Microscopic examination typically shows fibroblast-like stellate and spindle-shaped cells arranged in a random, loose storiform or fascicular growth pattern suspended in a myxoid stroma with varying amounts of collagen.^{3,4} Increased vasculature is often noted, and mast cells and giant multinucleated cells may be present.⁶ Necrosis and formation of calcifications has been reported. Nuclear atypia and mitotic figures are rare, if present. Immunohistochemistry will show an SAFM pattern positive for CD34 and negative for S100. Deviation from this pattern can occur, and similar to our patient, CD34-negative SAFM occur in 27-31%.^{2,3,5} Additional helpful markers for SAFM that are often positive include CD99, vimentin, and epithelial

membrane antigen and anti-smooth muscle actin is typically negative.^{3,5}

Management of SAFM should be based on location, size, involvement of underlying structures, atypical features, and associated complications. Definitive treatment of SAFM is complete surgical excision.

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