Fibro-Osseous Pseudotumor of Digits

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65.1 Definition

- Fibro-osseous pseudotumor of digits (FPD) is a rare, benign, localized, self-limited fibro-ossifying process that occurs in the proximal phalanges of digits.

65.2 Synonyms

- Florid reactive periostitis of the tubular bones of hands and feet
- Parosteal fasciitis

65.3 Epidemiology

- Predominant in females.
- Adolescents or young adults.

65.4 Sites of Involvement

- Proximal phalanges.
- Metacarpal and metatarsal regions.

Eduardo Santini-Araujo was deceased at the time of publication.

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65.5 Clinical Symptoms and Signs

- Pain.
- Localized and fusiform swelling in hands and (less frequently) in feet.

65.6 Imaging Features

65.6.1 Radiographic and CT Features

- Ill-defined and calcified soft-tissue mass without the zoning pattern of myositis ossificans (Fig. 65.1)
- May present a radiolucent line between the calcified mass and the bone cortex.
- Mature lesions are similar to myositis ossificans, becoming smaller and attached to the cortex.

65.6.2 MRI Features

- Low or isointense signal mass in all sequences over the bone cortex and extensive peripheral edema.

65.6.3 Bone Scan Features

- Hot spot

65.7 Imaging Differential Diagnosis

65.7.1 Parosteal Osteosarcoma

- Densely ossified, juxtacortical, round or oval mass attached to the underlying cortex.
- Rare in hands and feet.

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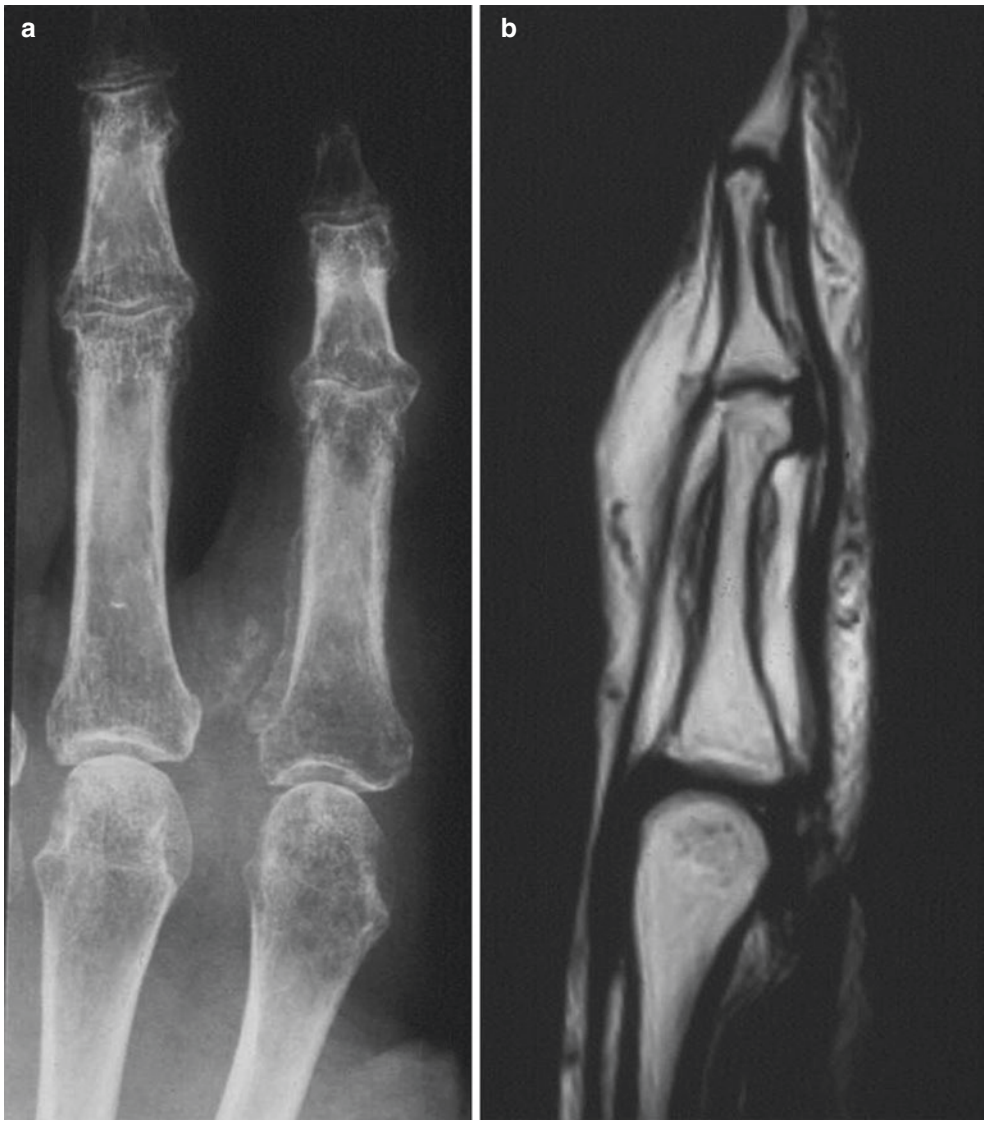

Fig. 65.1 (**a**) Roentgenograph of the proximal phalanx of the hand showing a dense soft-tissue mass with a periosteal reaction. (**b**) Sagittal MRI evidences the soft-tissue swelling and the periosteal reactive reaction of the phalanx

65.8 Pathology

65.8.1 Gross Features

- Less than 5 cm in diameter.
- Stony consistency (mature lesion).

65.8.2 Histological Features

- The lesion resembles myositis ossificans.
- Lacks zoning phenomenon or zoning effect.
- Loosely arranged fibroblasts on a myxoid matrix with abundant deposits of osteoid surrounded by active osteoblasts and multinucleated giant cells (Figs. 65.2, 65.3, and 65.4).

65.9 Pathologic Differential Diagnosis

65.9.1 Extraskeletal Osteosarcoma

- More common in elderly patients, fifth and sixth decades.
- Usually a high-grade tumor.
- "Lacelike" osteoid.

65.9.2 Parosteal Osteosarcoma

- Low-grade malignant tumor.
- Extensive bone trabeculae formation with a tendency to parallel arrangement.
- Fibrous stroma presents numerous spindle cells of low-grade sarcoma; similar to a low-grade fibrosarcoma.
- Rare in the hands and feet.

65.10 Prognosis

- FDP has an excellent prognosis.
- Recurrence may be observed in cases treated in an early stage.

65.11 Treatment

- Depends on the evolution stage of the lesion.
- Excision of mature lesions is curative.

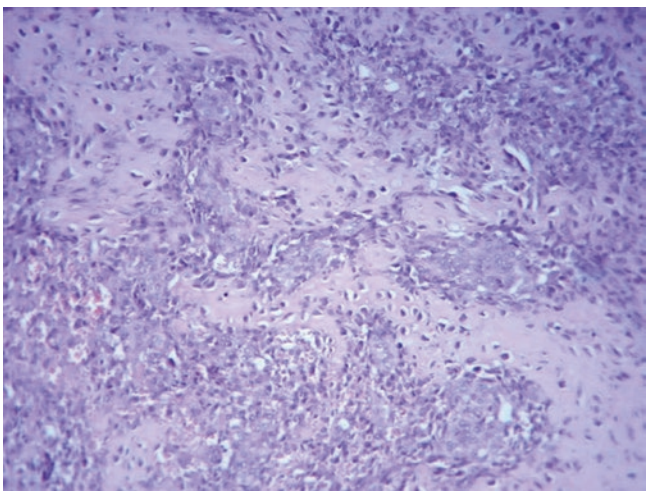

Fig. 65.2 Microphotograph showing woven osteoid bone trabeculae rimmed by active osteoblasts. The bone marrow stroma is hypercellular, and some cells have a bizarre aspect

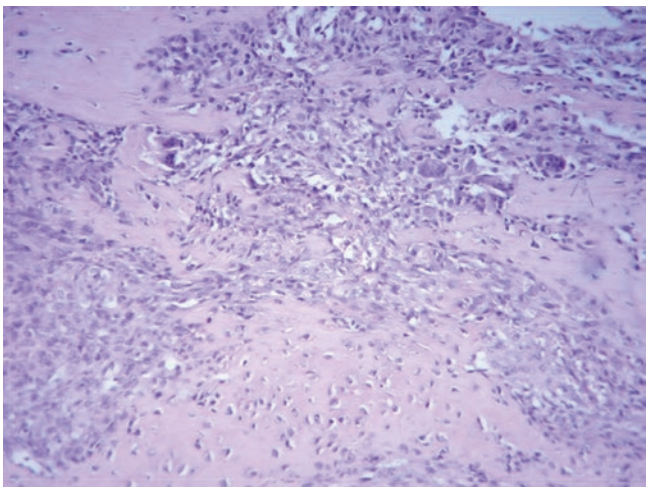

Fig. 65.3 Microphotograph showing a histology similar to the former image with the presence of multinucleated giant cells, osteoclastic type

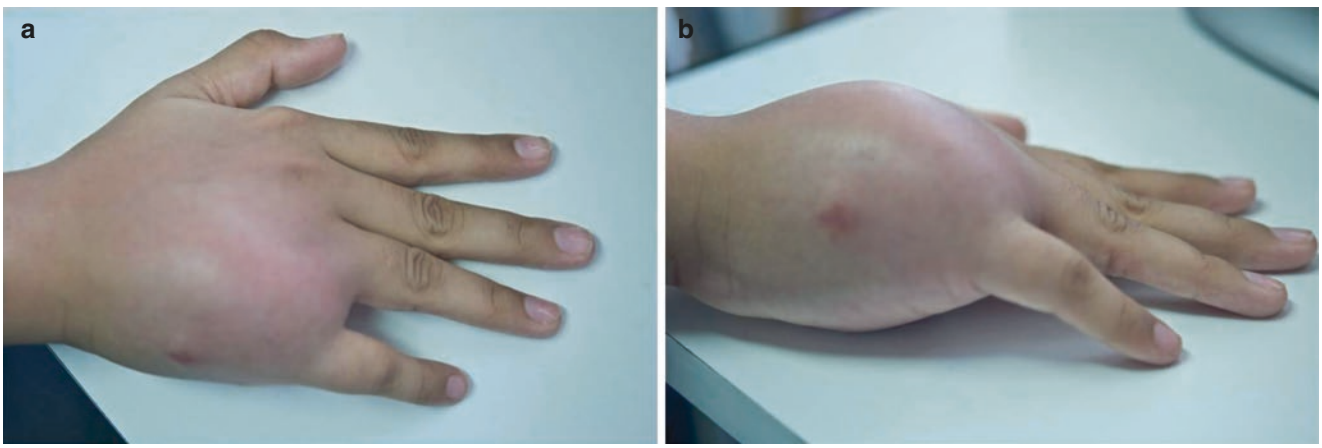

Fig. 65.4 (**a**, **b**) Hypothenar eminence swelling with a red area in the skin. Note the small punctate scar lesion due to core needle biopsy, which was useful to make an accurate diagnosis. (**c**) Anteroposterior X-ray evidences a calcified mass in soft tissues close to the periosteal surface of the fifth metacarpal bone. (**d**) Evolution of the lesion 6 months later

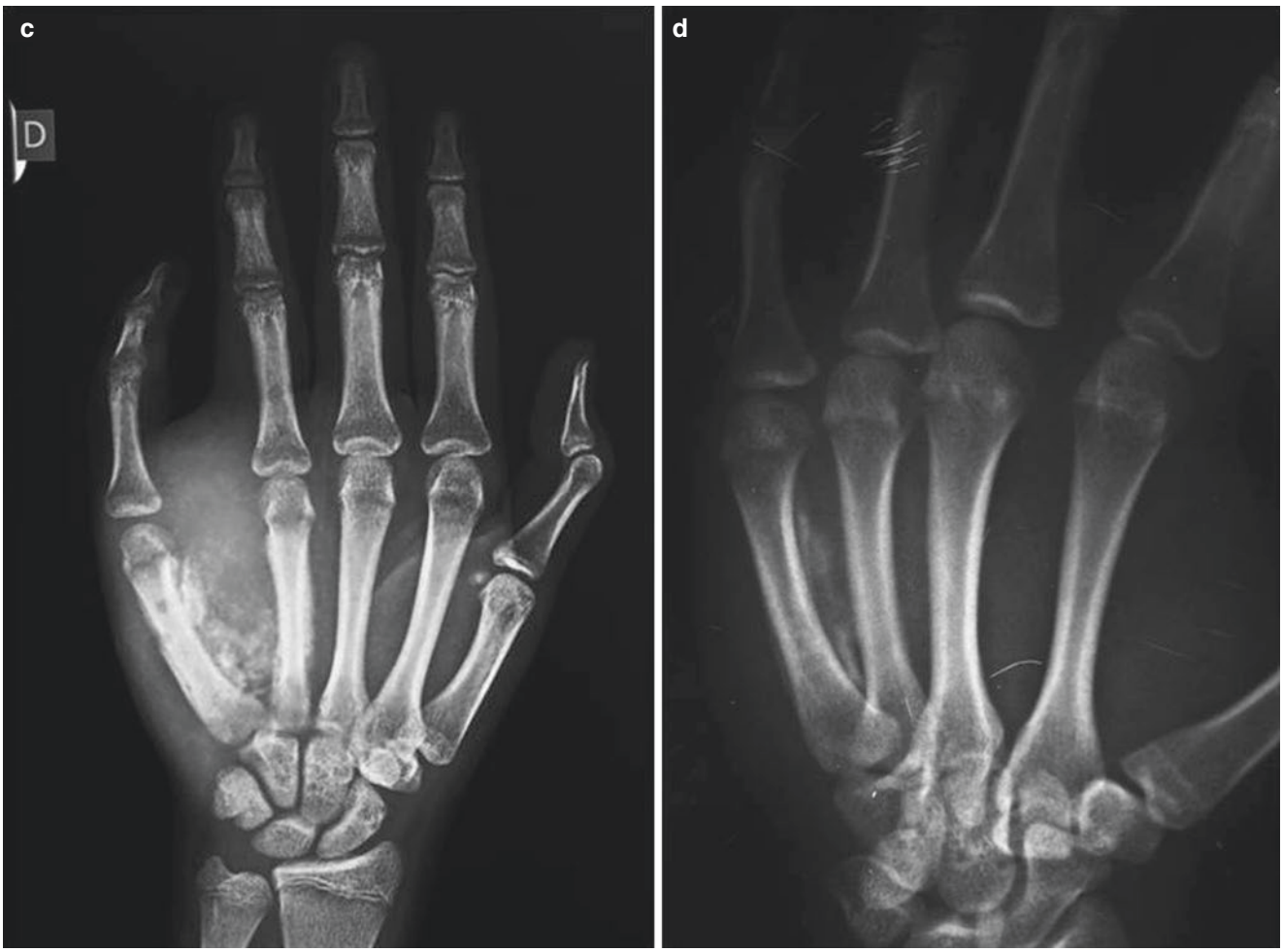

Fig. 65.4 (continued)

Suggested Reading

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