Case 884

Intraosseous Epidermoid Cyst
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Section: Musculoskeletal system
Case Type: Clinical Cases
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Patient: 13 years, male

Clinical History:

The patient presented with a one-year history of sawing trauma of the right hand, causing deep cut wounds at the tip of the first up to the fourth fingers. Conventional radiographs revealed no abnormalities. Exploration of the second finger showed damage of the tendon of the deep flexor muscle and complete section of the radial neurovascular bundle. A reconstruction of the injured tendon and nerve was performed. The patient then manifested an extension deficit of the distal interphalangeal joint of the right index. Ten months later, the patient complained of pain and swelling of this joint. Conventional radiographs of the index were taken.

Imaging Findings:

A 13-year-old boy with a one-year history of sawing trauma of the right hand, causing deep cut wounds at the tip of the first up to the fourth fingers presented. Conventional radiographs revealed no abnormalities. Exploration of the second finger showed damage of the tendon of the deep flexor muscle and complete section of the radial neurovascular bundle. A reconstruction of the injured tendon and nerve was performed. The patient then manifested an extension deficit of the distal interphalangeal joint of the right index. Ten months later, the patient complained of pain and swelling of this joint. Conventional radiographs of the index were taken.

Discussion:

Intraosseous epidermoid cysts are rare, benign cystic bone lesions. These lesions are nearly always located in skull and hand. The skull is most commonly affected, with predilection for the parietal and temporal bones. In the hand, the distal phalanx is more frequently involved than the other phalanges or metacarpal bones. Less frequent localizations are ulna, toes, tibia, femur and sternum. A history of trauma is present in about two-third of cases of phalangeal epidermoid cysts. This injury may have occurred up to thirty-five years before the onset on symptoms. Clinically the lesion causes local swelling, variable pain and redness. The radiographic aspect is that of a well circumscribed, rounded, cystic lesion, surrounded by a sclerotic rim. The lesion causes expansion and scalloping of bone. Microfractures may be seen at the thinned cortex. Macroscopically, the diameter of the cyst varies from 1 to 2 cm. The cyst is filled with a white cheesy debris. Microscopic examination shows a stratified squamous epithelium and central keratinous debris within the cyst. Radiologically, intraosseous epidermoid cysts must be differentiated from other cystic lesions. Enchondromas may have an identical appearance, but rarely occur at the terminal phalanx. Moreover, most enchondromas contain variable amounts of calcifications. Glomus tumors also may mimic epidermoid cysts, but are rarely seen in the phalanges. In general, glomus tumors are small (with diameter of only a few millimeters) and are commonly located in the subungual region.

Differential Diagnosis List: Intraosseous epidermoid cysts
**Final Diagnosis:** Intraosseous epidermoid cysts

**References:**


Description: Conventional radiographs of the right index show a cystic lesion surrounded by a sclerotic rim in the distal epimetaphysis of the middle phalanx. Thinning and expansion of the cortex and swelling of the surrounding soft tissues are noted. Microscopic examination of the resected lesion showed an epidermoid type of epithelium with a central thick layer of kerati. No atypical cells were found. These findings as well as the radiological for intraosseous epidermoid cyst. Origin:
Description: Conventional radiographs of the right index show a cystic lesion surrounded by a sclerotic rim in the distal epimetaphysis of the middle phalanx. Thinning and expansion of the cortex and swelling of the surrounding soft tissues are noted. Microscopic examination of the resected lesion showed an epidermoid type of epithelium with a central thick layer of keratin. No atypical cells were found. These findings as well as the radiological data are diagnostic for intraosseous epidermoid cyst.

Origin: