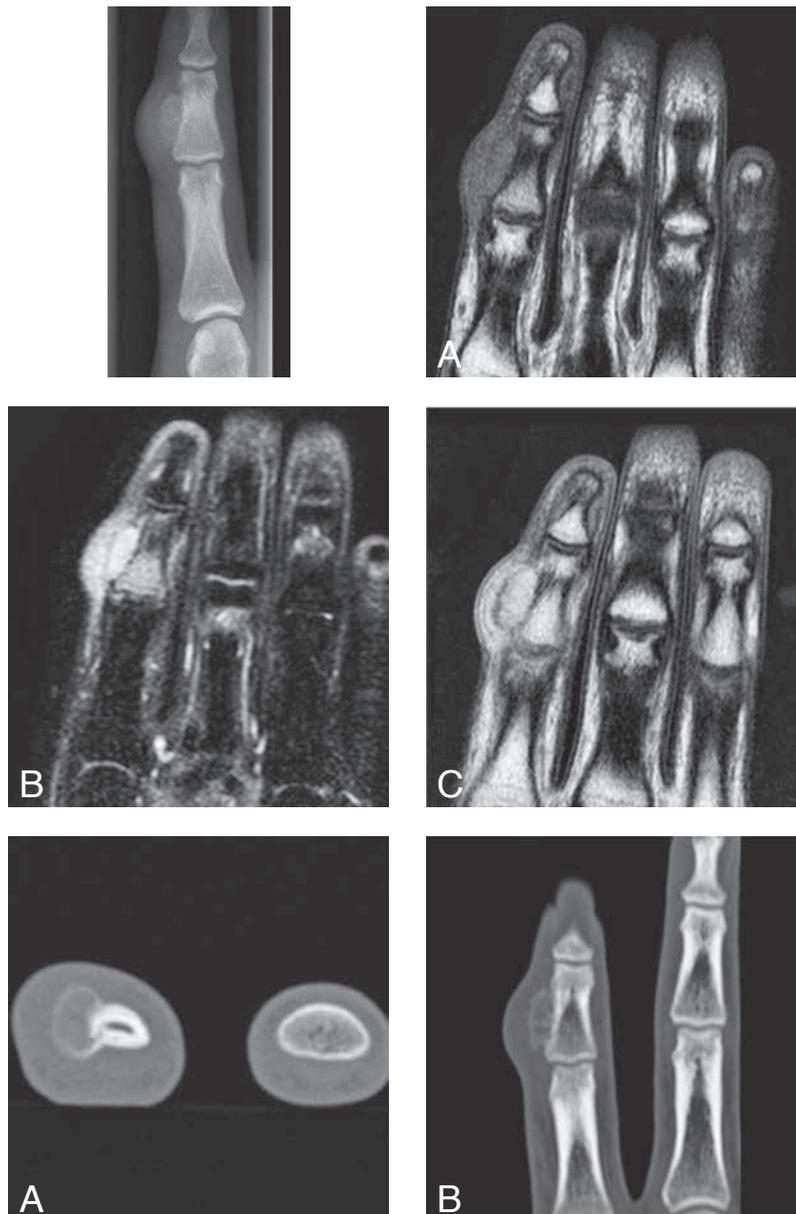


BIZARRE PAROSTEAL OSTEOCHONDROMATOUS PROLIFERATIONS OF THE FINGERS

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Key-word: Osteochondroma

Background: A 22-year-old patient with no medical history presented with a swollen index finger without previous trauma. Physical examination revealed a mildly tender swelling of the middle phalanx of the second digit.



1	2A
2B	2C
3A	3B

Fig.

Work-up

Plain radiograph of the second digit of the right hand (Fig. 1) shows amorphous calcified lesion with some cortical irregularity. There is also some accompanying soft tissue swelling.

MRI of the right hand (index), images in the coronal plane (Fig. 2) shows on unenhanced T1-weighted image (A) a fairly sharp defined lesion at the radial side of the second digit is seen. The lesion has a low signal intensity on this pulse sequence. Coronal fat-suppression STIR image (B) demonstrates focal high signal intensity is observed, especially in the center of the lesion, indicating a relatively high water content. C: on gadolinium-enhanced T1-weighted image, the lesion enhances moderately.

CT image through the second digit (Fig. 3) includes an axial slice through the middle phalanx of the second digit (A) and a reformatted MPR-image in the coronal plane (B). Locally, discontinuity of the cortex is observed. Fine trabecular bone can be seen within the lesion. There is a thin surrounding cortical rim and a subtle periosteal reaction is noticed.

Radiological diagnosis

The combination of imaging findings is consistent with a *Nora's Lesion or bizarre parosteal osteochondromatous proliferation (BPOP) lesion*.

Discussion

The above described properties of the lesion best match a bizarre parosteal osteochondromatous proliferation (BPOP).

Although the lesion is known among pathologists, it is relatively unknown among radiologists.

As this kind of lesion also was described by dr. Nora in 1983, it is hence sometimes called Nora's disease or Nora's lesion.

BPOP involves the small bones of the hand and feet in the majority of cases, especially at the level of the phalanges. The location is most often metaphyseal. There is no evident sexual predilection.

The importance of recognizing BPOP lies in the fact that it constitutes in fact a benign entity with a high tendency of recurrence if excised. Immediate excision is not required, neither has the lesion to be biopsied. Instead, a 6 months radiological follow-up will suffice, unless the natural course of the lesion is not clear. Natural evolution of the lesion takes place within 6 months, in which the lesion completely calcifies.

BPOP often presents as a painless mass or swelling without previous history of trauma. Radiological hallmarks of the lesion are the relatively normal appearance of the underlying bone and the absence of contact between the lesion and the medullary bone. This distinguishes BPOP from osteochondroma, in which contact between the lesion and the medullary bone is always present. Differential diagnosis includes both benign and malignant conditions: chondroma, parosteal osteosarcoma and, as previously noticed, parosteal osteochondroma.

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