

Metacarpal Neck Osteochondroma: an Atypical Cause of “Trigger Finger”

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Introduction

- “Snapping” and “locking” of the fingers or thumb are common clinical complaints for hand surgeons
- Most cases are attributable to common conditions such as tenosynovitis, Dupuytren’s contracture, metacarpophalangeal(MP) joint sprains, or arthritis,
- Physical examination and careful observation during range of motion testing can reveal signs reflective of common and unique pathologic cases
- We present a rare instance of a previously undiagnosed metacarpal neck osteochondroma causing MP joint locking

Background

- A locked MP joint has been defined in literature as a loss of both active/passive extension of the MP joint, without flexion loss, and while accompanied by normal interphalangeal joint mobility
- Due to metacarpal head and neck morphology, a cam effect leads to dynamic changes in collateral ligament tension from flexion to extension
- Full assessment of a patient with locking requires observing the proximal interphalangeal (PIP) joint during flexion to rule out classic trigger finger, a problem near the A1 pulley
- After ruling out other common causes of subjective locking, the flexor tendon/muscle belly must be evaluated for rare pathologies that affect finger movement from a different locale
- In some cases, advanced imaging techniques are required for proper diagnosis

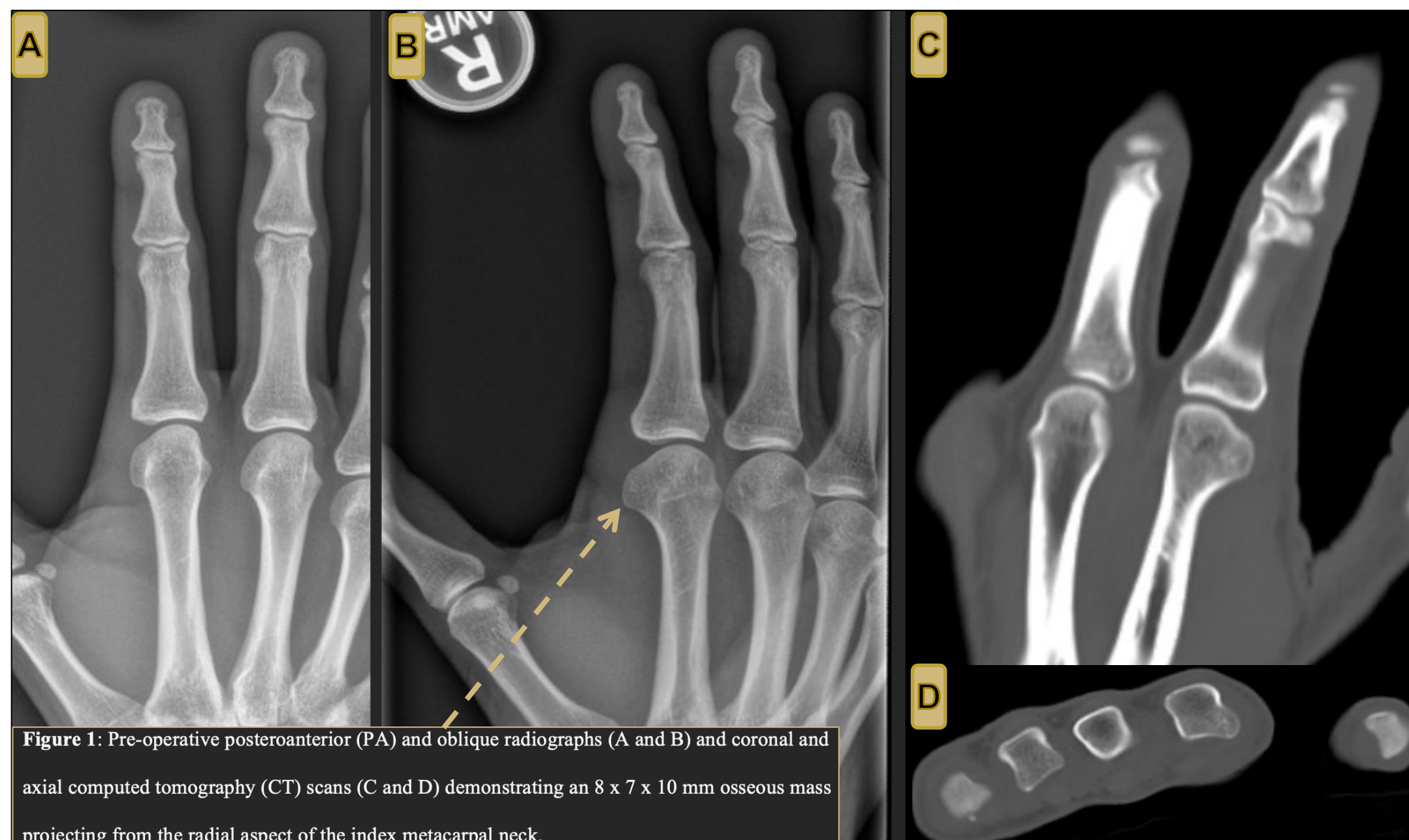
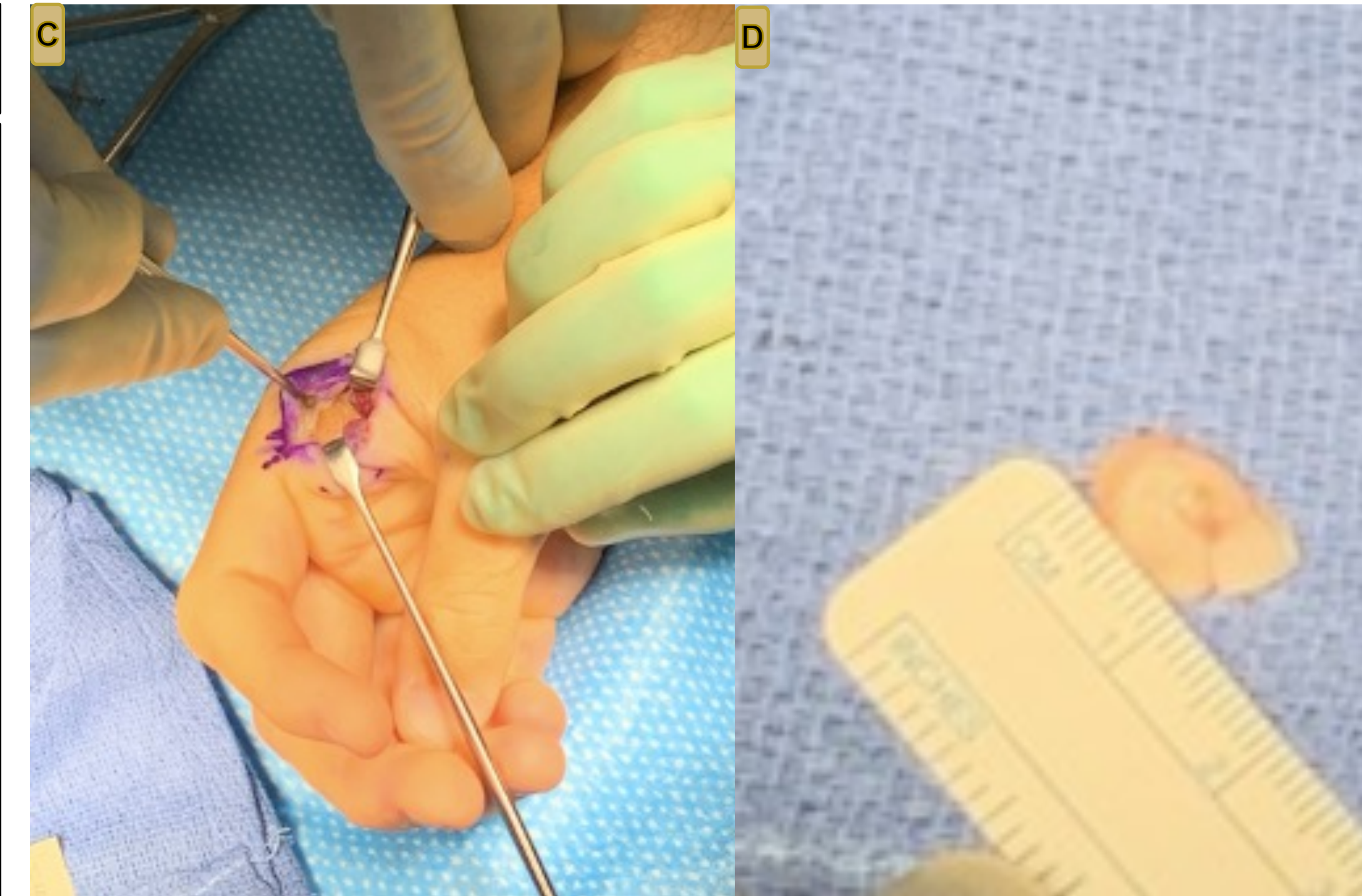
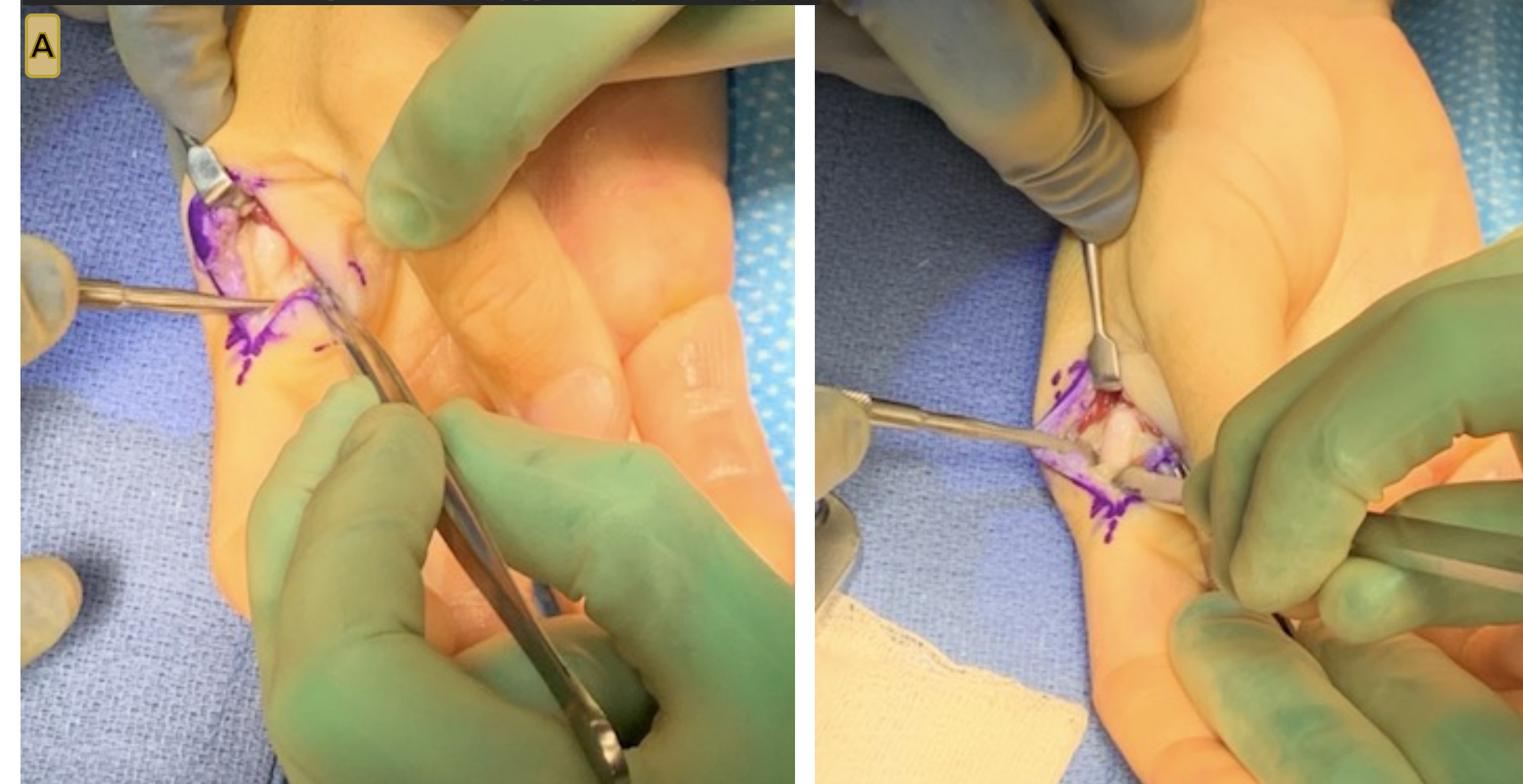


Figure 1: Pre-operative posteroanterior (PA) and oblique radiographs (A and B) and coronal and axial computed tomography (CT) scans (C and D) demonstrating an 8 x 7 x 10 mm osseous mass projecting from the radial aspect of the index metacarpal neck.

Case

- A 36-year-old healthy male presented with two weeks of painful right index finger locking with a painful snap he could easily reproduce by extending his finger from a flexed position.
- Conservative treatment with NSAIDs and activity modifications were previously unsuccessful.
- Without typical trigger finger symptoms (i.e., tenderness, crepitus, or a palpable nodule near the A1 pulley) imaging with radiographs and computed tomography were pursued.
- Imaging revealed a large protuberance of metaphyseal cancellous bone off the radial aspect of the metacarpal neck, approximately 8 x 7 x 10mm in size.
- Excisional biopsy was pursued and a mass with an overlying cartilaginous cap was visualized volar to the radial collateral ligament (RCL).
- Passive digital flexion under anesthesia revealed RCL subluxation over the mass
- The mass was excised en bloc with a ¼” osteotome and sent to pathology where the diagnosis of osteochondroma was later confirmed.
- The RCL remained intact throughout the surgery and at the 10-day follow-up visit, the patient had experienced complete resolution of his symptoms.
- He was counseled regarding the benign nature of osteochondroma and gradually returned to activity.

Figure 2: Intra-operative images demonstrating exposure of bony mass with a shiny cartilaginous cap (A), resection with a ¼” straight osteotome (B), underlying cancellous bone after resection (C), and the specimen, measuring approximately 1 cm in length (D).



Discussion

- Osteochondroma is the third leading cause of cartilage tumors in the hand, and cartilage tumors account for around 65% of all tumors affecting the metacarpals.
- While most in the hand are asymptomatic, those causing deformity, pain, and dysfunction may require surgical intervention.
- When patients complain of subjective catching, snapping, or locking of a finger, several typical etiologies must be considered: Trigger finger (stenosing tenosynovitis), extensor tendon subluxation, rheumatoid arthritis, and osteoarthritis
- Based on our case, we recommend detailed assessment of range of motion, full-length examination of the flexor tendon and muscle, and the use of imaging only when the physical exam is inconclusive.
- Our case report supports the inclusion of a metacarpal head/neck osteochondroma or other bony prominences on the differential diagnosis of a “trigger finger.”

Citations:

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