

Dorsoulnar Wrist Ganglion Associated With Os Ulnostyloideum: A Case Report

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T rue accessory ossifications of the ulnar wrist, unrelated to prior trauma, are uncommon.¹ In a study of 800 asymptomatic wrists, Biyani and colleagues² found only 2 cases of an accessory os styloideum, or “os ulnostyloideum.” Accessory ossicles in the immediate area surrounding the distal ulna and its styloid process have been implicated in primary chronic polyarthritis and inflammation.^{1,3}

Wrist ganglions are typically found on the dorsal or volar aspect of the wrist. Ulnar-sided dorsal ganglions are less common and, when present, usually arise from the scapholunate joint and spread ulnarly. To our knowledge, ulnar-sided ganglion cysts have not been described in relation to accessory ossifications of the ulnar styloid.

CASE REPORT

A right-hand-dominant woman in her early 30s presented with a mass on the dorsoulnar aspect of the left wrist and complained of occasional pain on contact (Figure 1). Patient history was unremarkable except for a hypothyroid condition controlled with levothyroxine. There was no remote history of trauma to the wrist. The patient's occupation entailed keyboard work.

Physical examination revealed a soft, translucent 3x3-cm mass on the dorsoulnar aspect of the wrist. The patient did not have any sensory deficits or evidence of distal radioulnar joint instability. Active and passive motion of the wrist and digits was full.

Plain films of the left wrist showed an accessory ossicle distal to the ulnar styloid beneath the soft-tissue mass (Figure 2).

With the patient under Bier block anesthesia, a longitudinal incision was made over the left wrist mass. Using sharp dissection, the surgeon elevated flaps on either side of the mass while taking care to identify and protect the dorsal sensory branch of the ulnar nerve. The stalk of the mass was found to originate from the pseudarthrosis between the ulnar styloid and the accessory ossicle. Clear



Figure 1. Preoperative clinical photograph of the dorsal wrist shows an ulnar-sided mass about the ulnar styloid.

gelatinous contents consistent with a ganglion were visualized within the mass. The stalk was transected at its base, and the mass was sent for pathologic review.

Next, a 1x1x0.5-cm ossicle was found distal to the ulnar styloid (Figure 3). Subperiosteal elevation allowed excision of the mobile accessory ossicle. The dorsal retinaculum over the extensor carpi ulnaris, which had been divided to expose the ossicle, was closed.

Histologic results for the mass confirmed it to be a ganglion cyst. The excised accessory bone showed no significant histopathologic abnormality.

A year after surgery, the patient was seen back in the clinic. She had no complaints and was working without any problems. She maintained full symmetrical active and passive motion compared with the contralateral wrist and was nontender about the well-healed incision. There was no evidence of recurrence of the mass. There were no sensory deficits.

DISCUSSION

Ganglions of the wrist and hand are relatively common, representing 50% to 70% of all tumors in the wrist and hand.⁴ Ganglions are cystic lesions filled with mucinous material and attached to a nearby joint capsule, tendon, or tendon sheath.⁴ Dorsal, volar, retinacular, and distal interphalangeal ganglions represent more than 90% of the ganglions of the hand.⁵ Less commonly, ganglions can arise from the proximal interphalangeal joint or the pisotriquetral joint.^{6,7}

The most common site for ganglions of the wrist and hand is on the dorsum, originating from the joint capsule around the scapholunate ligament in most cases.⁸ Cysts that arise from the joint capsule around the scapholunate

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Figure 2. Anteroposterior film of the left wrist shows an accessory ossicle (os ulnostyloideum) distal to the ulnar styloid.

ligament may extend to other regions, such as the volar or ulnar wrist, by a long pedicle.^{9,10}

Accessory ossifications about the ulnar styloid are uncommon.¹ Biyani and colleagues² studied 800 asymptomatic wrists, found 612 patients with the standard ulnar styloid process, and described 5 morphologic variants in the remaining 188 patients. Of the 800 patients, only 2 had accessory ossicles.

Although our patient did not recall remote wrist trauma, we cannot be certain it did not occur. Many patients show radiographic evidence of previous ulnar styloid trauma and do not recall a previous injury. However, a true os ulnostyloideum can be differentiated from a traumatic accessory ossification because a true os ulnostyloideum, as seen in this patient, has a normally developed and intact ulnar styloid.

Whereas Biyani and colleagues² stated that the accessory ulnar styloid variant is a rare finding in combination with rheumatoid arthritis (RA) and that these conditions are not associated, Bade and colleagues¹ implicated the accessory ossification variant in inflammatory conditions and RA, especially in young people. The symptoms seen in early RA involve pathologic activation of the synovium of the prestyloid recess resulting in ulnar-sided pain and soft-tissue swelling.^{3,11} Ganglions associated with rheumatoid ulnar styloid erosions are usually ulnar-sided volar wrist ganglions or, less commonly, intraosseous ganglions of the distal ulna.^{12,13} The relation between ulnar-sided wrist pain in early RA and an accessory ossicle, or os ulnostyloideum, of the ulnar styloid remains unclear. Our patient demonstrated no clinical, radiologic, or pathologic evidence of RA.

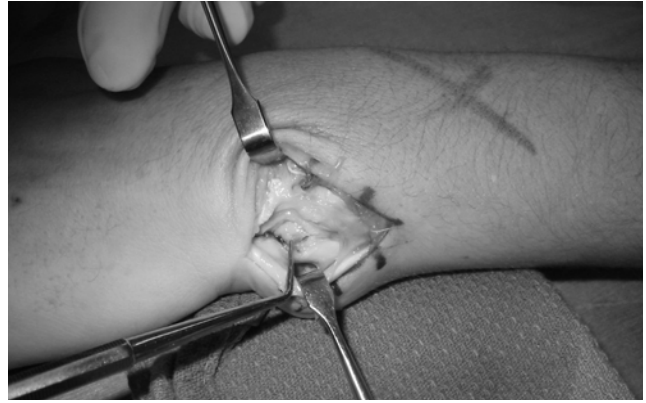


Figure 3. Intraoperative photograph of the dorsoulnar aspect of the wrist. The probe points to the accessory ossicle distal to the ulnar styloid.

Even though our patient's ganglion developed on the dorsoulnar aspect of the wrist, it was not related to the scapholunate joint but instead originated from a pseudarthrosis between the ulnar styloid process and an accessory ossicle just distal to the ulnar styloid. This case suggests that accessory ossifications should be considered a possible etiology for ganglion cysts in the ulnar styloid region.

At our institution, plain films are not routinely obtained in the workup of typical dorsal or volar ganglion cysts. In the present case, however, preoperative anteroposterior, lateral, and oblique plain films were obtained of the wrist because of the relatively unusual location of the mass. These plain films turned out to be quite helpful in making the intraoperative decision to excise the accessory ossicle after the stalk was discovered to clearly arise from the accessory ossicle articulation with the ulnar styloid. Given this case, preoperative plain films may be indicated if a cystic lesion is ulnar-sided. These plain films may allow visualization and intraoperative excision of an accessory ossicle—which can help in avoiding recurrence. Otherwise, the ossicle may be missed, or it may create confusion if a mobile bony fragment is unexpectedly encountered during surgery.

AUTHOR'S DISCLOSURE STATEMENT AND ACKNOWLEDGEMENT

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This paper will be judged for the Resident Writer's Award.
