Sided Wrist Pain.

Radial wrist pain is common in middle and elderly populations. It is most often deemed as either de Quervain’s tenosynovitis, or osteoarthritis of the first carpometacarpal (CMC) joint or scaphoid-trapezium-trapezoid (STT). However, there are multiple other causes of radial wrist pain, which should be excluded, if the patient does not respond to treatment for the above-mentioned common conditions. We aim to demonstrate these causes in this pictorial review.

**Purpose**

Radial wrist pain is common in middle and elderly populations. It is most often deemed as either de Quervain’s tenosynovitis, or osteoarthritis of the first carpometacarpal (CMC) joint or scaphoid-trapezium-trapezoid (STT). However, there are multiple other causes of radial wrist pain, which should be excluded, if the patient does not respond to treatment for the above-mentioned common conditions. We aim to demonstrate these causes in this pictorial review.

**Bone**

Scaphoid Fracture

- Scaphoid Fracture
- Scaphoid.Tenderness or tendovaginitis of the abductor pollicis longus (APL) and extensor pollicis brevis (EPB) tendons at the styloid process of the radius.
- Axial T1 SE (left) and T2* GE (right) shows hyperintensity of the waist of the scaphoid.
- PA radiograph: punched out juxta-articular erosions (aka ‘rat bite’) particularly of the scaphoid. Juxta-articular erosions also seen IF joints of ring finger and IP joint of thumb.
- Ganglion Cyst. Coronal MR T1 SE (left) and T2* GE (right) shows hypointensity of the lunate consistent with sclerosis, indicative of Kienbock’s disease (painless resorption of the lunate).

Kienbock’s Disease

- Axial T2w and Sagittal STIR: Ganglion cyst arising from the scaphoid-trapezial joint, extended dorsally.
- PA radiograph of left wrist: joint space narrowing, subchondral sclerosis and osteophyte formation of the 1st carpometacarpal (CMC) joint and the scaphoid-trapezium-trapezoid (STT).

**Tendon**

De Quervain Tenosynovitis

- Entrapment tendinitis or tendovaginitis of the abductor pollicis longus (APL) and extensor pollicis brevis (EPB) tendons at the styloid process of the radius.
- PA radiograph (left) showing fracture through the waist of the scaphoid. MR T2* GE (right) shows hyperintensity of the waist of the scaphoid.

Intersection Syndrome

- Axial T1 SE (left) and T2* SE (right) shows oedematous wrist, with increased power Doppler flow and fluid surrounding an oedematous APL and EPB.

**Joint**

OA of 1st CMC and STT joints

- PA radiograph of left wrist: joint space narrowing, subchondral sclerosis and osteophyte formation of the 1st carpometacarpal (CMC) joint and the scaphoid-trapezium-trapezoid (STT).

Gout

- PA radiograph punched out juxta-articular erosions (aka ‘rat bite’).

Pseudogout (CPPD)

- PA radiograph of left wrist: joint space narrowing, subchondral sclerosis and osteophyte formation of the 1st carpometacarpal (CMC) joint and the scaphoid-trapezium-trapezoid (STT).

**Inflammatory Arthritis: Rheumatoid Arthritis**

- MR Coronal T2 STIR and Axial T2: Marked erosions in the carpal and metacarpal bones with secondary joint degenerative changes in patient with rheumatoid arthritis. Favor carpal radial tenosynovitis.

**Inflammatory Arthritis: Tuberculous Arthritis**

- MR Axial T2w and Sagittal T1: Ganglion cyst arising from the scaphoid-trapezial joint, extended dorsally.

**Conclusion**

Radiographs, ultrasound and MRI are all modalities that should be used with clinical assessment to assess the broad differential provided by radial-sided wrist pain. It is helpful to categorise pathology by using anatomy as a guide, as we have done in this case.

**References**

3. Dixebio, B. Kienbock disease. emedicine.com

**Ligament**

Dorsal Intercalated Segment Instability

- Occurs mainly after disruption of the scapholunate ligament. Sagittal T2 STIR (left) and T2 SE (right): carpal instability with dorsal lunatotriquetral and posterior displacement of the capitum in comparison to the distal radius.

**Nerve**

Carpal Tunnel Impingement

- Compression of median nerve within the carpal tunnel. Axial T2w and MR shows flattening of the median nerve.