Symptomatic Rhizarthritis in a Bilateral Scaphotrapezial Synostosis

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A 62 year-old right-handed female came to our attention complaining of bilateral moderate basal thumb pain at rest and during pinch without limitation of daily life activities. The patient was healthy and her clinical history was unremarkable. She did not report trauma or hereditary pathologies. Standard wrist and hand radiographs showed bilateral rhizarthritis with a complete fusion of scaphoid and trapezium bones (►Fig. 1). The patient was treated conservatively, but 2 years later symptoms worsened in the left hand. The Disabilities of the Arm, Shoulder, and Hand (DASH) score was 42.5 and the radiographs confirmed the progression of the disease, then surgery was planned (►Fig. 2A).

The synostosis was resected at the level of the physiologic line of scaphotrapezial joint and the distal part corresponding to the trapezium was removed. A suspensionplasty with abductor pollicis longus tendon was performed (►Fig. 2B). Postoperative protocol included initial splinting and subse-

quent physiotherapy. Total joint arthroplasty was excluded for the patient's age and functional needs and for the presence of synostosis that could interfere with the normal thumb biomechanics.

Complete resolution of symptoms and return to normal daily life activities was observed 6 months postoperatively and the patient was fully satisfied. The range of movement of the thumb was fully recovered and the DASH score was 8.3. After 2 years of surgery clinical result was stable and radiographs showed preservation of the space between the resected scaphotrapezium synostotic bone and the base of first metacarpal bone.

Synostoses of carpal bones are described in literature as rare entities, more common in the black people and female sex. They result from an incomplete separation of the cartilaginous precursor between the 4th and 8th week of intra-uterine life and can be a part of various syndromic diseases,

Fig. 1 Bilateral scaphotrapezial synostosis anteroposterior view.

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Fig. 2 (A) Preoperative radiographs with arthritis progression. (B) 2-year follow-up radiograph.

sustained by genomic anomalies. In such cases, the coalition usually involves more than two bones belonging to different rows. Isolated synostoses are commonly symmetric and involve two bones, often in the same carpal row. This condition is most likely asymptomatic and often found in radiographs performed for different reasons.

Scaphotrapezial coalition has been rarely reported in the literature and only one case underwent to surgical treatment for scaphoid fracture.^{1–4}

It has been hypothesized that scaphotrapezial synostosis may increase distal mechanical stress through the loss of joint mobility, inducing early development of rhizarthritis³ even if we cannot exclude that the trapeziometacarpal arthritis would appear independently from the synostosis.

To our knowledge, this is the first case described in the literature in which a surgical procedure was performed for the treatment of a symptomatic rhizarthritis in a patient affected by scaphotrapezial synostosis. Our case suggests that in such rare conditions trapeziectomy with suspensionplasty,

or eventually other surgical procedures depending on the stage of the disease, may be effective.

Conflict of Interest

None.

References

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