

## The surgical approach of first carpometacarpal joint arthritis by combining two surgical techniques

Dear Editor,

Hematoma distraction arthroplasty<sup>1</sup> and tendon interposition arthroplasty<sup>2</sup> are well-described treatment methods for first carpometacarpal joint arthritis. We present our technique that combines these two procedures.

After adequate exsanguination, sterilization, and tourniquet inflation of the upper limb, a lazy “S” skin incision centered at the base of the first metacarpal is performed. Careful dissection and preservation of the sensory radial nerve is mandatory. The trapezium is encountered and sequentially dissected free from the surrounding tissues and removed.

The flexor carpi radialis tendon attachment is protected, and a longitudinal part of the tendon is removed. This tendinous stripe is folded and prepared to occupy the empty space created by the removal of the trapezium (Figure 1).

Under fluoroscopic control, the first metacarpal is adequately distracted and cross-pinned to the second metacarpal (Figure 2). The hand is protected in a thumb-Spica. Sutures are removed in two weeks, whereas the K-wire and the splint after six weeks postoperatively. All patients follow a dedicated hand therapy protocol.

We have performed and tested this combined procedure in 20 patients (13 females and five males, two bilateral operations) over 12 years. The mean follow-up time was five (range: 3-6) years. All the patients were above 40 (range: 40-82) with a mean age of 60 years. The subjective feeling of pain relief was excellent in all of them. There was a 40 % improvement in their grasping ability. A complication of traumatic neuroma of the sensory branch of radial nerve encountered in one patient, managed by surgical exploration and cauterization, and burring the neural stumps in the radius.

The combined surgical approach can deliver excellent results, including adequate pain relief, substantial improvement of grasping ability, and a low complication rate. Our results are in accordance with a recent review study by Cohen-Shohet<sup>3</sup>, which supports the long-term evidence of this method's cost-effectiveness, even in advanced cases.

**Keywords:** Interpositional arthroplasty, first carpometacarpal joint arthritis, hematoma arthroplasty, distraction arthroplasty.

### Conflict of Interest

Authors declare no conflict of interest.

### References

1. Kuhns CA, Emerson ET, Meals RA. Hematoma and distraction arthroplasty for thumb basal joint osteoarthritis: a prospective, single-surgeon study including outcomes measures. *J Hand Surg Am.* 2003; 28: 381-389.
2. Kriegs-Au G, Petje G, Fojtl E, Ganger R, Zachs I. Ligament reconstruction with or without tendon interposition to treat primary thumb carpometacarpal osteoarthritis. Surgical technique. *J Bone Joint Surg Am.* 2005; 87 Suppl 1: 78-85.
3. Cohen-Shohet R, Morgan A. Surgical Treatment of Advanced Carpometacarpal Joint Arthritis: Trapeziectomy with Hematoma Arthroplasty. *Hand Clin.* 2022; 38: 199-205.

Mourikis A<sup>1</sup>, Xarhas KC<sup>2</sup>

<sup>1</sup>3<sup>rd</sup> Department of Orthopedics, KAT General Hospital

<sup>2</sup>1<sup>st</sup> Department of Orthopaedics, Athens General Hospital G.Gennimatas Athens, Greece

**Corresponding Author:** Anastasios Mourikis, MD, MSc, PhD, Consultant Orthopedic Surgeon, 3<sup>rd</sup> Department of Orthopaedics, KAT General Hospital, 2 Nikis str, 14561 Kifisia Greece, e-mail: mourikisanastasio@gmail.com



**Figure 1:** Intraoperative image showing the interposition arthroplasty using palmaris longus and flexor carpi radialis tendons as spacers.



**Figure 2:** Hand radiograph showing the hematoma distraction by maintaining the space created by trapezium removal using a k-wire between the first and second metacarpal.