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Resection, interposition and suspension arthroplasty for treatment of Basal joint arthritis of the thumb: a randomized and prospective comparison of techniques using the abductor pollicis longus- and the flexor carpi radialis tendon

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The operative treatment of thumb carpometacarpal joint arthritis may include resection-suspension-interposition-arthroplasty. Although quite a technically demanding procedure, a suspension arthroplasty using a strip of the flexor carpi radialis tendon is quite a popular technique. Other techniques, which use the abductor pollicis longus (APL) tendon, is also widely accepted.The aim of this randomized, prospective study was to compare the results of these 2 procedures 8 months postoperatively.From May 2005 to December 2006 a total of 55 operations in 53 patients with symptomatic Grade III or IV 1st CMC joint arthritis were identified and recruited into the study. They were then randomized to one of the 2 groups (APL vs. FCR). Patients were assessed preoperatively, and then immediately and 8 months postoperatively. Both, subjective parameters (Visual Analog Scale and DASH-Score) and functional parameters (maximum radial abduction, opposition and pinch- and key grip strength) where recorded. Additionally, the trapezial space was assessed radiographically postoperatively.After 8 months both groups had comparable subjective results (APL-group: VAS 2.3 points, DASH 24 points; FCR-group: VAS 1.9 points, DASH 20 points) as well as functional results (APL-group: radial abduction 55.3°, key-grip strength 8.1 kg, pinch-grip strength 5.5 kg; FCR-group: radial abduction 55.8°, key-grip strength 7.2 kg, pinch-grip strength 4.7 kg). Radiologically both groups showed an approximate 50% reduction in the height of the trapezial space.In resection-suspension-interposition-arthroplasty of the 1st CMC joint, similar results can be obtained using the technically less demanding APL-procedure when compared with the FCR-technique 8 months postoperatively.

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