Objective Proximal migration of the first metacarpal can be seen after total trapeziectomy. In this study, two poly-L/D-lactide scaffolds (Regjoint®) were inserted to fill the void after total trapeziectomy. We hypothesized this spacer to prevent proximal migration of the first metacarpal without the need of an additional ligament reconstruction, allowing early mobilization and less demanding rehabilitation.

Methods Ten thumbs were treated with a total trapeziectomy and insertion of a poly-L/D-lactide scaffold. All patients were female and mean age was 65 (range 50-80) years. Clinical and radiological evaluation was performed after 6 months and 1 year. Patient satisfaction, pain, QuickDASH score, mobility of the thumb and strength were assessed.

Results After 1 year, 7 out of 10 patients were satisfied with the result. Pain according to the VAS decreased with 49% (p = 0.01). QuickDASH score decreased with 46% (p = 0.02). Opening of the first web space decreased with 24% (p = 0.02). Other parameters did not change significantly.

Radiological evaluation after 1 year showed a collapse of the scaphometacarpal distance of 45% (p = 0.01), refuting our main hypothesis. Moreover, osteolysis of the distal scaphoid pole and or proximal metacarpal was seen in 6 out of 10 cases. Because of the osteolysis, the use of the poly-L/D-lactide scaffold was discontinued in our practice.

Conclusion In our limited series, total trapeziectomy with use of the poly-L/D-lactide scaffold provides significant pain reduction and improvement of overall function.

Radiographic evaluation shows significant collapse of the scaphometacarpal distance after 1 year and signs of osteolysis in more than half of the cases. Therefore, we do not encourage the use of the poly-L/D-lactide scaffold with total trapeziectomy before long term clinical and radiological follow-up of the osteolysis is available. To our knowledge, this series is the first to use the poly-L/D-lactide scaffold after total trapeziectomy for primary basal thumb osteoarthritis. Radiological results align with earlier reports of osteolysis after partial trapeziectomy with poly-L/D-lactide scaffold.

A: pre-operative STT and TMC osteoarthritis; B: trapeziectomy 1 day postoperative; C: trapeziectomy 1 year postoperative showing subsidence and signs of osteolysis.