

# Surgical Options for Rheumatoid Instability of Elbow Joint

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**Abstract:** PURPOSE: to evaluate effectiveness, the clinical outcomes and quality of life before and after arthroscopic synovectomy and total elbow arthroplasty in patients with rheumatoid instability of elbow.

METHODS: We observed 23 patients with rheumatoid affecting elbow (12 women and 11 men). All patients had instability clinically (8 – mild, 8 – moderate, 7 – severe). Also all patients had severe pain and swelling, resulting from acute or chronic synovitis. 86% of them had contracture of elbow. In radiographic evaluation in 2 planes all patients has bone loss humerus and ulna (Classification Mikko Ikkavalko).

Arthroscopic synovectomy were performed on 8 rheumatoid elbows in 8 patients with radiographic changes of Larsen grade 3 or less, mild instability and Rg bone loss: humerus I ulna I. We performed total synovectomy of the elbow using multiple portals. Total elbow arthroplasty were performed on 15 rheumatoid elbows with radiographic changes of Larsen grade 4 or 5, moderate or severe instability and Rg bone loss: humerus 2 or 3 ulna 2 or 3. We performed TEA using Coonrad-Morrey prosthesis Zimmer. Pain was evaluated with a visual analog scale and range of motion was measured. The Mayo Elbow Performance Score and Oxford Elbow Score was used to assess total elbow function; EQ-5D, HAQ – for evaluation quality of life.

RESULTS:

The average age of patients was  $47,5 \pm 8,25$  years (39 to 27 years) and there was a 12 female and 11 male ratio (1:1). There were 72 % seropositive patients. The mean of follow up was  $24,5 \pm 6,2$  months (ranging from 7 to 38). The average duration of RA was  $7,87 \pm 6,37$  years. All patients had instability clinically (8 – mild, 8 – moderate, 7 – severe). Also all patients had severe pain and swelling, resulting from acute or chronic synovitis. 86% of them had contracture of elbow. In radiographic evaluation in 2 planes all patients has bone loss humerus and ulna (Classification Mikko Ikkavalko): humerus 1, ulna 1 – 8, ulna 2a humerus 2a – 8; ulna 2b humerus 2b – 4; humerus 3, ulna 3 – 3 patients.

The average increase in flexion was from  $114,4^\circ$  preoperatively to  $127,5^\circ$  at long term follow up and extension was from  $27,5^\circ$  preoperatively to  $2,3^\circ$  ( $p = 0.05$ ). The average increase in Mayo Elbow Score  $48,75/93,12$  and Oxford Elbow Score  $18,5/8,87$  on long term follow up ( $p = 0.05$ ). The mean EQ-5D (index) score improved from 0.23 to 0.72, HAQ from 2,59 to 1,24; VAS from 81,25 to 10,5.

CONCLUSIONS:

Arthroscopic synovectomy of the elbow in cases mild instability and small bone loss effectively decrease autoimmune inflammation into joint, relieve pain, increase range of motion and quality of life, improve Mayo and Oxford Elbow Score and prevent progressive bone destruction, but preserve mild instability.

Total elbow arthroplasty is used cases moderate or severe instability with big bone defects and lead to stability, increase range of motion and quality of life.

**Key words:** elbow