

CT-guided Intra-Articular Sodium Hyaluronate Injections for Severe Osteoarthritis of the Hip

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PURPOSE: To evaluate CT-guided intra-articular injections of sodium hyaluronate for osteoarthritis of the hip.

METHOD AND MATERIALS: 41 patients with osteoarthritis of the hip were treated with 5 intra-articular sodium hyaluronate injections each under guidance of computed tomography. Patients had at least grade 3 osteoarthritis according to the Kellgren and Lawrence grading system and were candidates for total hip replacement according to the National Institutes of Health Consensus Development Conference Statement on total hip replacement. An early follow up before the 5th injection and a follow up after one year included a visual analogue scale to measure pain and a modified Harris hip score for pain and joint function.

RESULTS: Early results showed a mean relative pain reduction of 44.3% on the visual analogue scale [52.98 ± 22.2 (SD) before therapy vs. 29.48 ± 26.27 points before 5th injection, $p < 0.0005$] and a statistically significant reduction of pain and improvement of joint function on the Harris hip score [Pain: 19.13 ± 7.84 (SD) before therapy vs. 32.00 ± 10.00 points before the 5th injection, $p < 0.0005$] [Function: 32.63 ± 9.95 (SD) before therapy vs. 39.43 ± 8.84 points before the 5th injection, $p < 0.0005$]. After 1 year the mean relative pain reduction on the visual analogue scale had increased to 55.7% [52.98 ± 22.2 (SD) before therapy vs. 28.43 ± 22.93 points after 1 year, $p < 0.0005$]. These results were confirmed by a significant reduction of pain on the Harris hip score [19.13 ± 7.84 (SD) before therapy vs. 28.47 ± 9.71 points after 1 year, $p < 0.0005$]. Function had not statistically significant improved compared to the time before therapy. At the endpoint of this study total hip replacement could be deferred in 80% of the patients. There were no intra- or postoperative complications.

CONCLUSIONS: Our results indicate that injections of sodium hyaluronate can effectively reduce pain in patients with osteoarthritis of the hip. Under guidance of computed tomography safe and precise injections can be performed. Further research is necessary to investigate the effect of sodium hyaluronate on pain and function of the hip joint in patients with osteoarthritis.