

Editorial

A New Look at an Old Procedure?

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Joint lavage aims to remove debris such as microscopic or macroscopic fragments of cartilage matrix, bone macromolecules, and crystals that may induce synovitis, a likely source of pain and a putative cause of chondrolysis.¹

Joint lavage has been used for several decades by rheumatologists and orthopedists for the treatment of knee osteoarthritis (OA) and septic arthritis. It can be performed during an arthroscopy, or more easily, on its own by using 1 or 2 needles, allowing the injection of saline (1–3 L) into the joint cavity, which is then evacuated. In this case, the procedure is easy and less expensive, and depending on the disease, can be followed by an intraarticular (IA) injection of corticosteroids.

In this issue of *The Journal of Rheumatology*, Drs. Ike and Kalunian have written a review of the literature on the efficacy of joint lavage for different conditions, not only for knee OA but also for inflammatory arthropathies, microcrystalline arthritis, and septic arthritis.² This is not a systematic literature review (SLR), but a narrative review.

The authors suggest that there is still a place for joint lavage in patients with knee OA.² However, 2 SLRs conducted on this subject concluded that lavage did not provide any clinically relevant benefit in knee OA.^{3,4}

In our previous SLR and metaanalysis of randomized controlled trials (RCTs) comparing joint lavage vs placebo for patients with knee OA, we found no robust evidence for a clinically relevant effect over placebo at 3 months. The pooled effect size (ES) of joint lavage vs placebo was not significant for pain (ES 0.17, 95% CI –0.37 to 0.71) or physical function (ES –0.15, 95% CI –0.34 to 0.04), nor was the pooled ES of joint lavage combined with steroid injection versus joint lavage alone significant for pain intensity (ES –0.82,

95% CI –2.47 to 0.82) or physical function (ES 0.09, 95% CI –0.28 to 0.45).³

Since then, no RCT has been published on the subject, to our knowledge, and lavage does not appear in the international recommendations for the treatment of knee OA.^{5–8} In our opinion, one important paper could have been cited: the study by Moseley et al, in which patients with knee OA were randomized into 3 arms: lavage, placebo, and arthroscopic debridement.⁹ At no point did the lavage group perform better on pain or function as compared to the placebo group. The important point in this study⁹ is that the placebo group did not receive saline into the joint, which could have had an analgesic effect and thus diminished the possibility of demonstrating an effect of the lavage. Indeed, for the patients in the control group, the surgeon asked for all instruments and manipulated the knee as if arthroscopy were being performed, and saline was splashed to simulate the sounds of lavage.^{9,10}

Drs. Ike and Kalunian also suggest that lavage could be an alternative to IA corticosteroid injections,² because of their potential toxicity on cartilage, citing the study by McAlindon et al.¹¹ It should be remembered that the number of injections performed in this trial was 4 per year for 2 years, which is almost never done in daily practice. Finally, although this study suggests a deleterious effect of repeated IA steroid injections, this does not seem to increase the risk of knee replacement.^{12,13}

In addition to lacking clinical relevance for pain relief, joint lavage may present several causes of discomfort for patients with knee OA as compared with corticosteroid injection: the total duration of a joint lavage (30–60 min) is longer than that required for one IA injection, bed rest might be recommended following the lavage, and low-molecular-weight heparin prescription is sometimes required. Moreover, the cost of joint lavage is much higher than that of a corticosteroid injection.

Should we definitively abandon joint lavage for the treatment of knee OA? Probably not, because one must remain pragmatic for the patients whose knee OA and synovial fluid effusion are not alleviated with 1 or more IA corticosteroid injections; this is a patient population that has never been specifically studied in RCTs.

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On the other hand, arthroscopic partial meniscectomy for symptomatic patients with a meniscal tear and knee OA do not result in better functional outcomes than physical therapy.^{14,15}

The value of joint lavage in microcrystalline arthritis to remove urate or calcium pyrophosphate deposition disease (CPPD) crystals is very uncertain. In gout, the most important goal is to dissolve the monosodium urate crystals by lowering the urate levels to below 5 or 6 mg/dL.^{16,17} To date, there is no treatment capable of dissolving CPPD crystals, but we should not fear that they will worsen the progression of preexisting knee OA.^{18,19} Acute CPPD arthritis is usually well controlled by nonsteroidal antiinflammatory drugs, corticosteroids (oral or injectable), colchicine, and likely also anti-interleukin (IL)-1 and anti-IL-6 blockers, as has been reported in some patients.²⁰ Finally, there is a concern that joint lavage may favor the crystals shedding from the cartilage into the joint cavity, thus triggering an intense inflammatory reaction, as has already been reported.²¹

Drs. Ike and Kalunian also cite some studies reporting the effectiveness of joint lavage in rheumatoid arthritis (RA). It must be emphasized that the use of this procedure for the treatment of isolated RA of the knee is not recommended. IA corticosteroid injections should be preferred in this case.⁸

In 2022, joint lavage plays an important role in the treatment of septic arthritis of the knee, a severe disease.²² It allows the evacuation of bacterial debris but also of macromolecules and proinflammatory cytokines that accompany the infection. Unfortunately, the way it should be done (during arthroscopy or with needles), and the moment when it should be done (at diagnosis or after a few days of antibiotics in case of uncontrolled infection) are not codified, because of the lack of well-conducted studies on the field.²³⁻²⁵ We sincerely hope that we will see these studies in the coming years to confirm the effectiveness of joint lavage for the management of septic arthritis.

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