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Response and Clarification

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We thank the JBJS for including a commentary on our recent study in the Evidence-Based Orthopaedics section and specifically thank Dr. Levy for his comments. We agree our study is a step in the right direction. We hope and expect future studies will give more insight in the optimal treatment of calcific tendinitis.

Indeed, it is difficult to blind both applied treatments of this RCT, as barbotage is a longer and sometimes more painful procedure. Therefore, we included this as a limitation in our discussion section. As reported, measures were taken, such as applying US guidance and sterile dressing in both groups, to make recognition of the treatment method less plausible. Furthermore, none of the included patients was a medical professional, and it might be difficult for a layman to differentiate both treatments. Most patients who had barbotage will probably have perceived this as "the more invasive" procedure. However, the local anesthetics and SAI alone are also invasive and may be perceived as painful (i.e., as a barbotage). As reported in the results, all patients indicated similar amounts of pain directly after the intervention. And generally, in follow-up, most patients reported they thought they had had barbotage treatment.

If there was a placebo effect, it would have been evident in most patients (both groups), as many perceived their treatment as invasive. Furthermore, a placebo effect would be generally depicted in higher patient-reported outcome measures, but not necessarily in objective outcomes. In this study, differences between treatments were most apparent in objective scores: significantly higher Constant Shoulder scores in follow-up and more resorption on radiographs in the barbotage group.

With regard to the increased volume in the subacromial bursa, there are no studies indicating that the injection of more subacromial fluid leads to better clinical and radiographic results for calcific tendinitis. Furthermore, both groups actually had the same amount of fluid injected in the bursa: an SAI of 6 mL. Additionally, in the barbotage group, flushing was performed with saline, after direct precise US-guided puncture of the calcific deposit. However, this could result in either (1) no additional administration of saline in the deposit (or bursa) due to a high resistance to injecting fluids, or (2) no additional administration of subacromial fluid due to the "pumping" as performed with barbotage: administering saline (injection) and getting it back (aspiration) with or without small parts of the calcifications. In our opinion, the result is no increase in the volume of saline solution in the subacromial bursa.

Indeed, both radiologists used slightly different methods of barbotage, but the technique of the SAI was similar in both randomized groups and for both radiologists. As for the two techniques of barbotage, the only difference is the use of one or two needles in the flushing of the calcific deposit. This did not result in a difference in the number of patients in which calcifications could be flushed. Unpublished data from L. Sconfienza et al. show no difference in the use of 1 or 2 needles. Furthermore, we referred to several other studies in our discussion on using 1 or 2 needles. The alleged benefit of using 2 different needles for irrigation and aspiration has not been verified and agreement on this subject has not yet been attained[1-3]. If 1 of the 2 applied barbotage methods is actually superior to the other, the superior outcome of barbotage in our study is actually underestimated.

We feel the methodological deficiencies of this study are limited. Despite some potential problems with blinding or the two applied barbotage techniques, results of barbotage are significantly better in this first study comparing the clinical and radiographic results of barbotage (combined with corticosteroid SAI) and corticosteroid SAI in a double-blinded randomized controlled trial. We look forward to further trials investigating treatments of calcific tendinitis.

References

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