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Commentary on: A Retrospective Comparison of the Efficacy of Embolization with Imipenem/Cilastatin and Microspheres in the Management of Chronic Shoulder Pain

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Finas et al. [1] have recently published the results of a comparison of the efficacy of embolization with imipenem/cilastatin (IMP/CS) and microspheres in the management of chronic shoulder pain in Cardiovascular and Interventional Radiology.

The use of IMP/CS mixed with contrast media as an embolic agent in the musculoskeletal territory became popular after studies by Okuno et al. in 2013 [2]. Its resorption capacity decreases the possibility of undesirable ischemic complications [3]. However, as IMP/CS is not available in all countries for intra-arterial use, there is the consideration of microspheres.

As they described in the study [1], it is a retrospective report of a small sample of patients with the absence of a control group. This is a heterogeneous sample, including patients with both primary and secondary shoulder stiffness after surgery. Minimum clinically important differences (MCID) at three months after the embolization included the pain and the satisfaction of the patients. The American Shoulder and Elbow Surgeons (ASES) score was available only in the IMP/CS group, but there are no references regarding the evolution of mobility, and this is important because a patient may be satisfied because the pain has disappeared, despite mobility not having improved and/or vice versa. At three months after embolization, MCID was significantly higher in the IMP/CS group; however, there was no significant difference in pain reduction or analgesic consumption.

Regarding technical aspects, the size of the spheres employed was different. In 9 patients, 250-micron spheres were used and in 6 patients, 100-micron spheres, which may generate differences in the outcome of complications, as the authors described. Procedure time was shorter in the IMP/CS group probably because embolization is not as selective or distal. They reported a higher percentage of complications in the microsphere group as a major difference between the agents. This is the most relevant result of the study, including the appearance of postembolization syndrome only in the microsphere group.

A similar study has recently been published that concluded that microsphere particles are comparable to IMP/CS particles in reducing pain in moderate to severe knee osteoarthritis [4]. There is a tendency to think that the behavior of an embolic agent is the same regardless of the region where it is used, but it differs according to the joint, the vascular anastomoses, the collateral network, and the articular structures. In the shoulder pathologies, there is usually a reduction in mobility, in addition to pain, while in the knee osteoarthritis, the indication for embolization is mostly due to pain, which is why the subjective clinical results of the patients are also different.

We do not yet know whether the efficacy of embolization in the shoulder is due to stopping the inflammatory cascade after a joint injury or whether it is due to the type of embolic agent. Currently, we do not have the ideal embolic agent for shoulder embolization.

In conclusion, Finas et al. [1] provide the first comparison data in the shoulder between the most widely used embolizing agents employed in musculoskeletal territory with results that trend to a greater use of resorbable agents.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Consent for Publication Consent for publication was obtained for every individual person's data included in the study.

Ethical Approval The study performed was in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by the institutional review board (IRB). Our hospital clinical research ethics committee approved this study.

Informed Consent Informed consent was obtained from the patient included in the study.

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