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The Effectiveness of High-Energy Extracorporeal Shockwave Therapy Versus Ultrasound-Guided Needling Versus Arthroscopic Surgery in the Management of Chronic Calcific Rotator Cuff Tendinopathy: A Systematic Review.

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Abstract

PURPOSE: The objectives of this comprehensive quantitative review of the treatment of calcific tendinopathy of the rotator cuff were to investigate if there is a sustainable positive effect on outcomes after treatment with high-energy extracorporeal shockwave therapy (ESWT) or ultrasound (US)-guided needling and to compare these results with those of treatment with arthroscopic surgery.

METHODS: The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were followed to conduct this review. A systematic literature search was conducted in December 2014 to identify relevant clinical articles in peer-reviewed journals with at least 6 months' follow-up. Each article was scored using the Coleman Methodology Score. The primary endpoints were functional outcome and radiologic change in the size of the calcific deposit.

RESULTS: Twenty-two studies were included (1,258 shoulders). The mean Coleman Methodology Score for the included studies was 77.1 ± 9.1. Overall, good to excellent clinical outcomes were achieved after treatment with either high-energy ESWT, US-guided needling, or arthroscopic surgery, with an improvement in the Constant-Murley score ranging between 26.3 and 41.5 points after 1 year. No severe side effects or long-term complications were encountered.

CONCLUSIONS: Patients can achieve good to excellent clinical outcomes after high-energy ESWT, US-guided needling, and arthroscopy for calcific tendinopathy of the shoulder. Side effects and post-treatment complications should be taken into account when a decision is being made for each individual patient. Physicians should consider high-energy ESWT and US-guided needling as minimally invasive treatment options when primary conservative treatment fails. Arthroscopy can safely be used as a very effective but more invasive secondary option, although the extent of deposit removal and the additional benefit of subacromial decompression remain unclear.

LEVEL OF EVIDENCE: Level IV, systematic review of Level I, II, and IV studies.

Comment in

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