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Observational Study [ANZ J Surg.](#) 2021 Apr;91(4):673-679. doi: 10.1111/ans.16672.

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Shoulder injections with autologous conditioned serum reduce pain and disability in glenohumeral osteoarthritis: longitudinal observational study

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Abstract

Background: Currently, non-surgical treatments for glenohumeral osteoarthritis (GH-OA) mainly aim to reduce pain. Autologous conditioned serum (ACS), Orthokine, an interleukin-1 inhibitor from the patient's own blood has an anti-inflammatory effect. The objective was to determine whether intra-articular injections of this ACS improved symptoms in patients with GH-OA and delayed the need for a shoulder replacement.

Methods: A total of 36 consecutive patients, 40 shoulders, with OA received up to 6-weekly intra-articular injections of ACS were included. Imaging of GH-OA, range of motion, visual analogue scale (VAS) pain, Shoulder Pain And Disability Index (SPADI), American Shoulder and Elbow Surgeons and Constant scores were assessed pre-injection and post treatment at 3 months. At a minimum of 2 years, VAS and SPADI scores and whether anyone had progressed to a shoulder replacement were recorded.

Results: Outcomes 3 months post-ACS injections demonstrated on average statistically significant improvement ($P < 0.05$) of all measurements: SPADI (54.3 ± 21.5 vs 43.7 ± 23.7), Constant score (50.5 ± 14.1 vs 57.1 ± 17.4), VAS pain (4.8 ± 2.2 vs 3.7 ± 2.4) and range of motion. Of these, 16 shoulders progressed to a shoulder replacement, nine cases quickly (0.6 ± 0.2 years) and seven cases were

delayed by 3.1 ± 1.7 years. The other 18 cases had significant improvement in pain, SPADI (58.0 ± 19.6 to 31.8 ± 21.4 ; $P < 0.01$) scores and no progression to a shoulder replacement at 3.6 ± 1.0 years follow-up. There was no correlation of glenoid Walch score or joint space with clinical outcome parameters.

Conclusion: ACS injections in the shoulder joint for OA can reduce pain and disability, and postpone the need for a shoulder replacement.

Keywords: autologous conditioned serum; glenohumeral osteoarthritis; intra-articular injection; non-operative management; shoulder.

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