

Does Combined Hydrodilatation Improve the Outcome of Glenohumeral Corticosteroid Injection for Adhesive Capsulitis of Shoulder?: A Randomized Controlled Trial

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INTRODUCTION:

Glenohumeral corticosteroid injection has been a major treatment for adhesive capsulitis of shoulder. Hydrodilatation is also a treatment option. However, few studies have considered the combined treatment of the two methods. The purpose of this study is to investigate the synergistic effect of hydrodilatation for glenohumeral corticosteroid injection in adhesive capsulitis of shoulder.

METHODS:

Fifty patients who underwent glenohumeral corticosteroid injection for adhesive capsulitis of shoulder were enrolled in this single center, double-blinded randomized controlled trial. Twenty-six patients were randomly allocated to group 1 and received glenohumeral injection with 1 mL (40mg) triamcinolone, 4 mL lidocaine, and 15 mL saline. The other 24 patients were allocated to group 2 and received glenohumeral injection with 1 mL (40mg) triamcinolone and 4 mL lidocaine, alone. Functional outcomes including Visual analog scale of pain (VAS), patient satisfaction (SAT), range of motion, American Shoulder and Elbow Surgeons Score (ASES), and Constant score were checked just before the injection and at 3 and 7 weeks, and 3 and 6 months after the injection.

RESULTS:

The demographic data of the two groups were not significantly different. In the two groups, the overall functional outcomes improved after the injection. Group 1 showed more gains in forward elevation at 3 and 6 months ($p=0.035$ and $p=0.003$), in external rotation at 3 and 6 months ($p=0.004$ and $P<0.001$), in internal rotation at 7 weeks, 3 and 6 months ($p=0.027$, $p=0.001$ and $p<0.001$), and in SAT at 6 months ($p=0.029$) after the injection compared to group 2. Also, group 1 showed more gains in ASES at 3 and 7 weeks, and 6 months ($p=0.011$, $p=0.027$ and $p=0.012$) and in Constant score at 7 weeks, 3 and 6 months ($p=0.008$, $p=0.001$ and $p<0.001$) after the injection.

DISCUSSION AND CONCLUSION: Combined hydrodilatation could improve the outcome of glenohumeral corticosteroid injection for adhesive capsulitis of shoulder.