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### **Adhesive shoulder capsulitis, treatment with corticosteroid, corticosteroid with distension or watchful wait; a randomized controlled trial in primary care**

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**Background & Aim:** Adhesive shoulder capsulitis is commonly encountered condition in primary care with unclear management at present. We aimed to explore whether treating adhesive capsulitis (frozen shoulder) by injections with corticosteroid and distension is more effective than treating with corticosteroids alone or watchful wait.

**Methods:** In this randomized intention to treat study, 105 recruited patients were randomized to one of three groups: Group 1 received intra-articular corticosteroid injection and Lidocaine; group 2 received in addition sodium chloride as distension varying from 8 ml to 20 ml; group 3 served as control group. Patients in group 1 and 2 received four injections in 8 weeks, and all were assessed on the 1st visit, and the 4th and 8th week. Outcomes were measured with Shoulder Pain and Disability Index (SPADI), Numerical pain rating scale (NPRS) and passive range of motion (PROM). Postal assessment was repeated after 1 year for SPADI. **Results:** Out of the 216 referred patients, 146 met the inclusion criteria. There were no statistical significant differences between the two injection groups in SPADI, NPRS and PROM at baseline, 4 weeks, 8 weeks or 12 months. There was statistically significant improvement in the intervention groups compared to no treatment at 4 and 8 weeks for SPADI ( $p < 0.01$ ;  $p < 0.001$ ), NPRS ( $p < 0.01$ ) and PROM ( $p < 0.01$  for external rotation), but not at 12 months ( $p > 0.05$ ). The effect size (ES) at 8 weeks was 1.18 between groups 1 and 3 and groups 2 and 3. At 12 months, ES was reduced to 0.26 and 0.38 respectively.

**Conclusion:** This study indicates that four injections with corticosteroid with or without distension, given over 8 weeks, were better than watchful wait in treatment of adhesive shoulder capsulitis, but no difference after 1 year, indicating its natural course.

Key words: adhesive capsulitis, corticosteroid, distension

Trial registration: ClinicalTrials.gov NCT01570985