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Intraarticular steroid injection improves pain of non-injected shoulder in bilateral frozen shoulder

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Intra-articular corticosteroid injection improves pain of non-injected shoulder in bilateral frozen shoulder: retrospective comparative study

Objective
To evaluate the improvement of pain and range of motion (ROM) in non-injected shoulder after intra-articular corticosteriod injection to one side in bilateral frozen shoulder.

Method
This is retrospective comparative study. Participants were bilateral primary frozen shoulder patients (n=125), who had ultrasound-guided corticosteroid (triamcinolone acetonide, 20-40mg) injection in one shoulder. Outcome measurements were numeric rating scale (NRS) and passive ROM (① abduction; ② external rotation; ③ hyperextension and internal rotation, length from the spinous process of C7 to tip of extended thumb; ④ flexion) evaluated at pre and post-injection. Paired T test was performed to compare the changes of pain and passive ROM between pre and post-injection in injected and non-injected shoulder, respectively. If Shapiro test was significant, Wilcoxon Signed-Rank test was conducted instead of paired T test.

Result
Of the 125 patients, 49 were men, 76 were women. Mean age was 54.03±8.04. Mean value of symptom duration was 6.51±2.84months. Mean value of triamcinolaone acetonide dosage was 30.0±3.94mg. Mean value of follow-up weeks after injection was 3.74±0.78weeks. For injected shoulder, NRS and passive ROM (① abduction; ② external rotation; ③ hyperextension and internal rotation; ④ flexion) were improved with statistically significance. Interestingly, NRS and passive ROM were also improved for non-injected shoulder with statistically significance.

Conclusion
This study shows intra-articular corticosteroid injection improves outcomes of non-injected shoulder. Therefore, in bilateral frozen shoulder, we suggest that clinicians

would be better to observe the non-injected shoulder after one side injection rather than do injection both shoulders simultaneously.

Table 1. Baseline characteristics of patients

Age (y)	54.03 ± 8.04
Men : Women	49 (39%) : 76 (61%)
Symptom duration (months)	6.51 ± 2.84
Dosage of triamcinolone (mg)	30.0 ± 3.94
Follow-up weeks after injection	3.74 ± 0.78

Values are mean ± SD or n (%).

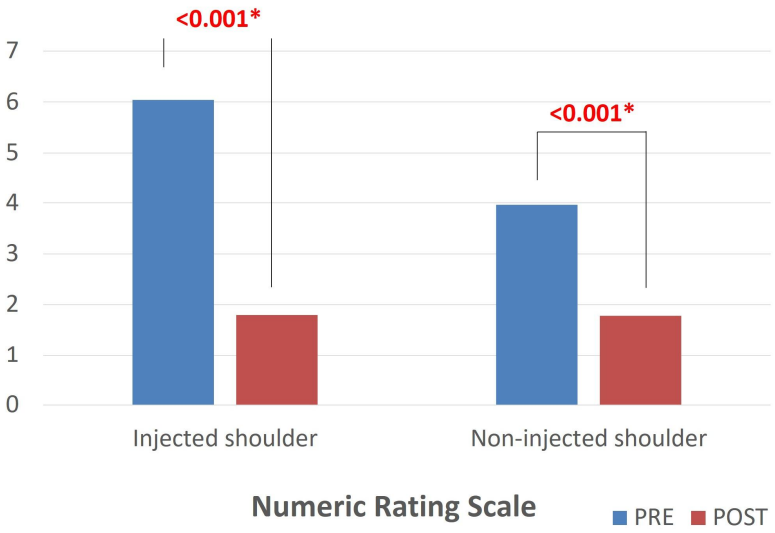
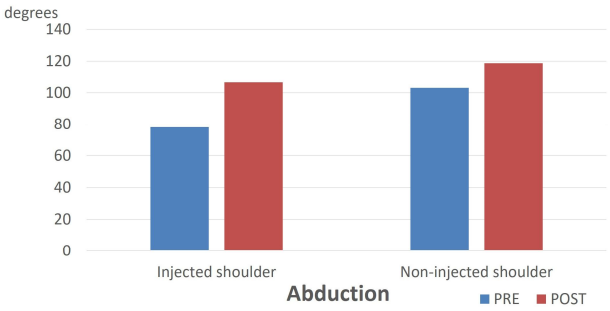
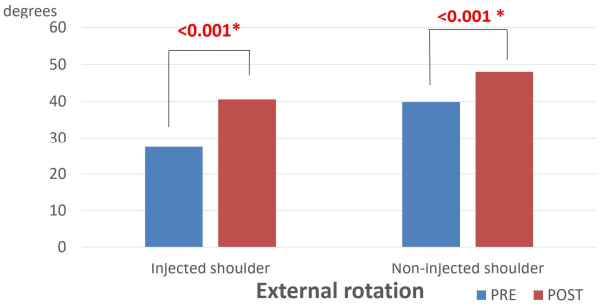
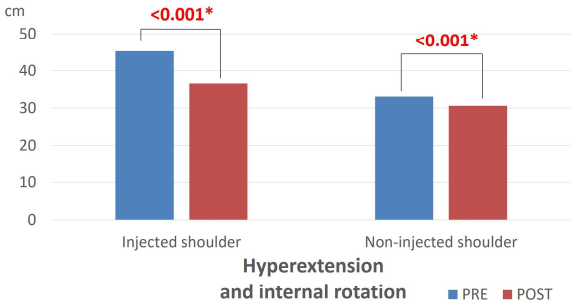


Fig. 1 Improvement of shoulder pain







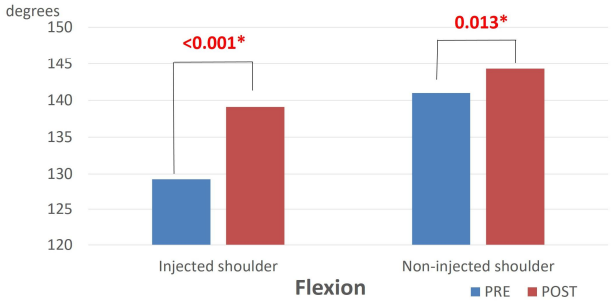


Fig. 2 Improvement of shoulder PROM