

LETTER TO THE EDITOR

COMMENTARY ON: COMPARISON OF OUTCOMES OF TWO DIFFERENT CORTICOSTEROID INJECTION APPROACHES FOR PRIMARY FROZEN SHOULDER: A RANDOMIZED CONTROLLED STUDY

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We read, with great interest, the study by Deng et al., which investigated the effects of different approaches of corticosteroid injection in primary frozen shoulder. The authors utilized 2 approaches to delivering injections to the affected site: an anterior approach and a posterior approach. The primary measures were pain intensity (measured on a visual analogue scale) and the Constant-Murley shoulder score. The secondary measures were passive range of motion, and complications faced. The results indicated that the anterior approach is more beneficial than the posterior approach in reducing pain in people diagnosed with primary frozen shoulder (1).

The rationale for this study is sound, and is particularly welcome in countries where there are limited funds for medical equipment. In the traditional approach for corticosteroid delivery, ultrasound guided injections are used for delivery to the affected site. While ideal, this is not economically feasible in countries where physical therapy centres have limited finances. Therefore, using an approach without the need for costly medical imaging is highly beneficial for patients, and for medical personnel.

The methodology employed by the authors was uniform between the 2 groups. They also provided sufficient detail to allow clear understanding of the techniques employed for injections. Blinding of assessors and participants was performed, which further reduces bias, and strengthens the validity of the study.

Some points that require discussion include the time frame of recruitment. Primary frozen shoulder progresses through stages. Throughout these stages, there are variations in range of motion and pain intensity. In the first stage (freezing stage), there is progressive limitation in range of motion, and gradual onset of pain, which begins to subside as the condition progresses to the

second (frozen) stage. The second stage involves limitation in ranges (particularly external rotation). However, there is a mild decrease in the intensity of pain. The last stage (thawing) involves recovery of range of motion of the affected shoulder. If left untreated, primary frozen shoulder resolves in between 1 and 3 years (2). Due to there being no fixed time-frame for the stages, it is not possible to identify in which stage participants in this study presented. As patients were enrolled in the study if they had had the condition for 9 months or less, it is likely that they had progressed to the “frozen” stage. This correlates with the pain intensity scores obtained.

The authors have provided detail about the pathophysiology in the discussion, but have not done so in the introduction. This is relevant, when considering the progression of the disorder, and the variation in activity limitation it can cause.

Another point that requires clarification is the diagnosis of frozen shoulder. As radiographic findings yield no conclusive result, the authors should have mentioned on what basis the diagnosis has been established. A non-specific diagnosis of primary frozen shoulder is made on the basis of pain, and limitation of external rotation, but should be negative for other articular pathologies when radiographs are performed (3).

One potential indicator of the positive results received for the anterior approach is explained in a review study, in which it was observed that anterior structures of the shoulder were the main region of pathological change, and as such, movements such as external rotation tend to be affected (4). The current study yielded better results for the anterior approach, which further validates the approach used.

The authors have discussed the limitations of their study and have addressed how there were no control groups, and no significant differences between groups in pain intensity, which make it difficult to interpret the significance of treatment effects of either the anterior or posterior approach. A multi-centre study, with homogeneity between groups, and a larger sample size, would greatly enhance the study, and yield conclusive results on the efficacy of this particular approach.

In conclusion, considering the anatomical landmarks involved, and the approach used, the anterior approach was estimated to be more effective than the posterior approach in alleviating pain and increasing range of motion in patients with primary frozen shoulder. This is reflected in the results obtained by the authors and validates its use in the rehabilitation of this condition. Whether articular injections are wholly beneficial in the management of primary frozen shoulder is yet to be determined, as trial studies to date are not of sufficient quality to determine the efficacy of this method (5).

REFERENCES

1. Deng Z, Li Z, Li X, Chen Z, Shen C, Sun X, et al. Comparison of outcomes of two different corticosteroid injection approaches for primary frozen shoulder: a randomized controlled study. *J Rehabil Med* 2023; 55: jrm00361.
2. Hanchard NC, Goodchild L, Thompson J, O'Brien T, Davison D, Richardson C. Evidence-based clinical guidelines for the diagnosis, assessment and physiotherapy management of contracted (frozen) shoulder: quick reference summary. *Physiother* 2012; 98: 117–120.
3. Buchbinder R, Green S, Youd JM, Cochrane Musculoskeletal Group. Corticosteroid injections for shoulder pain. *Cochrane Database Syst Rev* 2003; 2003: CD004016.
4. Ryan V, Brown H, Minns Lowe CJ, Lewis JS. The pathophysiology associated with primary (idiopathic) frozen shoulder: a systematic review. *BMC Musculoskelet Disord* 2016; 17: 340.
5. Chan HB, Pua PY, How CH. Physical therapy in the management of frozen shoulder. *Singapore Med J* 2017; 58: 685.

The authors of the original article (Deng et al.) were invited to reply to this commentary on their paper, but did not respond.