



ORIGINAL RESEARCH PAPER

Orthopaedics

CLOSED REDUCTION OF PRIMARY ANTERIOR SHOULDER DISLOCATIONS – AN APPROACH WITHOUT ANAESTHESIA AND ANALGESIA.

KEY WORDS: Anterior dislocation, Glenohumeral, Reduction, Shoulder dislocation

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ABSTRACT

A new maneuver for anterior shoulder dislocation has been advocated in this case series of 40 patients, which did not require anesthesia, analgesia, pre-medications, assistance, traction. It is an effective and easy to do maneuver and has been successful in 95% of patients. Literature has described many methods for anterior shoulder dislocation, but this stands unique also in view that it is painless for the patient.

INTRODUCTION–

Glenohumeral joint of the shoulder is the most commonly dislocated joint in the human body and accounts for 45% of all dislocations.^{1,2} Acute dislocation is a surgical emergency and demands urgent relocation. Anterior dislocation of the shoulder is commonly seen in accident and emergency and trauma clinics and account to about 95% of all the shoulder dislocations.¹

These patients often present in a manner that a trained trauma physician can recognize at presentation itself. The arm is usually held in abduction and internal rotation. Physical examination reveals loss of normal contour of the deltoid and the acromion is prominent posteriorly and laterally.¹

Occasionally such cases are missed or present with fracture of proximal humerus especially when they receive treatment from unqualified practitioners who commonly practise in rural areas. Owing to paucity of the literature, no standard treatment protocol exists for neglected anterior dislocation of the shoulder, though most such chronic cases are managed by open reduction.³

Acute treatment of a dislocated shoulder is closed reduction, which should be performed as soon as possible, either on the field or in an emergency department.⁴

METHOD–

This study was conducted in 40 patients presenting in the emergency department at a tertiary care hospital over a period of 6 months. The diagnosis was confirmed by clinical examination and X-ray after obtaining a brief history. A thorough neurovascular examination of the involved extremity was carried out. A written informed consent was taken from the patient before attempting the reduction. In this manoeuvre, the surgeon either stands by the side of the patient or at his back, while the patient is made to sit on a chair with back rest and pushes his back against the chair so as to fix the scapula. Traction has no role in this method. The forearm is held by the elbow and wrist.

Gentle adduction to the arm is given by drawing the elbow towards the flank (midline). With forearm in supination, the arm is subjected to gentle external rotation very slowly over a 2-3 minute. The most important step to remember is to keeping the patient engaged in conversation so as to relax the patient and divert the attention to avoid any undue or voluntary muscular spasms. Automatic reduction has been observed in almost all cases without any additional manoeuvre, which is felt as a clunk and patient tells of sudden

relief. The limb is then internally rotated so that the fingers touch the opposite shoulder and a sling is given to the patient in that position.

Radiographs confirm successful reduction.



Figure 1 – Showing dislocation of left shoulder

Observation and results –

It was noted that all the patients were males and mostly the dislocation resulted due to sustaining a fall, industrial injury, and less likely by a vehicular accident. 95% patients were successfully treated with this method which presented with acute dislocation of shoulder.

These patients were aged between 22 and 65 years with male preponderance.

Most of the patients had presented to the clinics within 2 hours of the primary dislocation and the average time taken for the reduction after explaining the procedure and obtaining the consent was 3 to 5 minutes. All the successful reductions were done in a single attempt with non-reduction in 2 cases who had presented later than 1 week after primary reduction.

One of these patients had already undergone multiple attempts by traction-counter-traction method but the reduction was not achieved and had to undergo closed reduction under general anesthesia.

No other complications were noted in any of the cases.



Figure 2 – Post-reduction X-ray



Figure 3 – Another patient with right shoulder dislocation. The surgeon stands behind the patient while performing the reduction maneuver.

DISCUSSION –

More than 50-60% of dislocations of large joints involve the shoulder (glenohumeral).^{5, 6} Up to 90-96% of shoulder dislocations are antero-inferior.^{7,8} Most dislocations can be reduced in the emergency department using simple methods. The ideal method should be simple, easy, quick, effective, atraumatic, pain-free, require little assistance or medication, and cause no additional injury to the shoulder joint, musculoskeletal or neurovascular structures.^{9,10} All methods deploy traction in some form or the other, and this is combined with rotations, translations, scapular movements, counter tractions, direct pushing in of the head, etc.^{11,12} The methods described include traction-counter-traction in adduction (Hippocrates)¹³, in forward flexion (Stimson and Spaso), in lateral elevation (Eskimos), with leverage (Kocher and Milch), scapular manipulation, and other methods using direct pressure or pushes. The existence of plethora of methods spells the fact that not one method is fool proof or guaranteed to work all the time. Other methods are fist in axilla¹², direct knee pressure^{14,15} sheets or straps to pull out the axilla¹⁵ pulling the arm over the back of a chair^{16,17} Simpson's hanging arm method^{18,19} reverse Spaso^{20,21} painful self-reduction method of Boss-Holzach²² Milch and its variants, Leidelmeyer's external rotation method, Scapular manipulations and other miscellaneous methods²³. Many of these methods have been called easy, revolutionary, new or simple by their inventors and proponents. However, the success with all these procedures and methods varies tremendously and the success rate has been variously reported.

This method is one of the most effective and efficient for treating acute shoulder dislocation. In this study, we determined that the average time required for successful reduction was about 3-5 minutes. Almost all patients had a significant VAS score improvement immediately after the reduction was achieved. None of these patients who were successfully treated required any analgesia or anesthesia.

By this method, it was not possible to reduce a neglected chronic dislocation in a 50-year-old male, who presented after almost 1 month of dislocation.

This method is different from the others hitherto published, because the exact combination of movements to be performed in an erect position, without any traction, anaesthesia or analgesia, leading to a hundred percent successful reduction, has not been previously described.²

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