

Reduction of anterior dislocation of the shoulder: the Spaso technique

Spaso Miljesic, Anne-Maree Kelly

Spaso Miljesic SEN
Department of Emergency Medicine
Western Hospital

Anne-Maree Kelly MBBS MCLinEd FACEM
Department of Emergency Medicine
Western Hospital

Address for correspondence:
Assoc Prof A-M Kelly
Department of Emergency Medicine
Western Hospital
Private Bag, Footscray 3011
Email: Anne-Maree.Kelly@whcn.org.au

Introduction

Anterior dislocation of the shoulder is the most common major joint dislocation encountered in emergency departments. Reduction of these dislocations is one of a range of procedures in which emergency physicians need to be skilled. A number of methods of closed reduction have been described with varying success rates. This paper describes a method (developed by the main author) that is simple, applies minimal force, is able to be performed by a single operator and is highly effective, even in inexperienced hands.

Technique

Following confirmation of dislocation by X-ray and provision of adequate analgesia, with or without light sedation as required, the patient is placed in the supine position. The affected arm is grasped around the wrist or distal forearm and gently lifted vertically, applying slight traction. While maintaining vertical traction, the shoulder is slightly externally rotated. A clunk is heard or felt as reduction occurs.

If the patient experiences discomfort, they tend to lift the shoulder up off the bed. If this occurs, stop further movement of the limb but maintain traction. The pain will usually subside quickly and the patient relaxes. After a few minutes of gentle traction, reduction will usually occur. If difficulty is experienced, it may be helpful to use one hand to palpate the head of the humerus and gently push on it to assist reduction, whilst maintaining traction with the other hand. The key elements of the method are shown in Figures 1-4.



Figure 1. Elevation of arm



Figure 2. Vertical traction with shoulder flexed to 90 degrees



Figure 3. External rotation of shoulder



Figure 4. Pressure on humeral head if required

Comments

A number of approaches to reduction of anterior dislocation of the shoulder have been described and several are currently in use. They can be broadly classified as the traction-countertraction methods such as the Hippocratic traction-countertraction and hanging methods^{1,2}, external rotation methods such as Kocher's, and the external rotation methods^{3,4} scapular manipulation methods⁵ and the overhead methods such as the Milch and forward elevation manoeuvres^{6,7}. Good success rates have been reported for each of these methods, however comparisons of safety, efficacy and patient acceptability are lacking.

Concern has been raised about the safety and practicality of some of these methods. The traction-countertraction group relies to a variable extent on countertraction applied by pressure in the axilla. Overzealous application of this pressure carries a risk of damaging the brachial plexus. Usually two operators are required for these methods, the exception being the hanging method. The original method described by Kocher has largely been abandoned because of the risk of fracture if excessive force is applied, however modifications of it are still in use. A problem often encountered with this group of methods is the analgesic and sedation requirements needed to overcome muscle spasm, particularly in the young, muscular patient.

The approach described, the 'Spaso' method, can be performed by a single operator, involves minimal force and avoids pressure on the brachial plexus. It relies on sound biomechanical principles in that in the overhead position, all of the shoulder muscles course directly upwards inserting into the

humerus thereby assisting reduction to the anatomical position. This contrasts with the methods performed with the arm at the side, where each of the shoulder muscles is running in a different direction usually requiring the use of more force or more sedation. The Spaso method is a new member of the overhead techniques group. It has some similarities to the Milch technique. In contrast, however, the arm is held straight in the vertical plane in the Spaso technique, rather than flexed at the elbow and abducted in the Milch technique. Another difference is that with the Spaso technique, there is slight traction prior to external rotation. It is also similar to the forward elevation technique although it does not involve a significant element of abduction of the arm, as is described with that method⁶. It has been widely used by all levels of staff at Western Hospital Footscray for the last 15 years with excellent results, even in relatively inexperienced hands. We are not aware of any serious adverse events related to its use. We recommend it as a simple, safe method for reduction of anterior dislocations of the shoulder.

References

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