Short Communication

Posterior Approach for Intra-Articular Steroid Injection for Shoulder Arthropathy and Subacromial Impingement Syndrome: Simple Techniques

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Anterior approach for intra-articular injections for shoulder joint is used traditionally. It has the disadvantage that anteriorly the space is narrow and one may find difficulty while introducing needle into the joint. Anteriorly, it is very difficult to approach the sub-acromial space. Posterior approach has the advantage that it is wide posteriorly and one can inject not only into subacromial area just below the angle of acromion but also into the shoulder joint 2 – 3 cm further below the acromion angle.

Introduction

The Gleno-humeral Joint

The glenohumeral joint represents the articulation of the humerus with the glenoid fossa of scapula and it is the most mobile joint in the body. The articulation is stabilized by the soft tissue configurations of a number of ligaments and muscles, including the four muscles of the rotator cuff (supraspinatus, infraspinatus, teres minor and subscapularis) that serve as the dynamic stabilizers of the joint. Static stabilizers include the joint capsule, the glenoid labrum and the glenohumeral ligaments.[1] Joint injections in this area should be considered only after other appropriate therapeutic interventions have been tried like use of non steroidal anti-inflammatory drugs, physical therapy and other disease modifying agents for rheumatoid arthritis.[2] There are three major indications for glenohumeral injection: Osteoarthritis, adhesive capsulitis and rheumatoid arthritis. Because of versatile range of movement and being the major joint of upper limb it is directly or indirectly subjected to macro or micro trauma making it prone to arthritis and capsulitis. Because of this it frequently requires interior approach injection.

Technique

Patient is seated with palm on the ipsilateral thigh, as in this position the posterior capsule is slack.[3] Strict aseptic technique is used. Angle of the acromion is palpated; a 21 gauge needle is inserted 2-3 cm inferior to the posterolateral corner of the acromion and directed anteriorly in the direction of the coracoid process. The plunger of the syringe is withdrawn to ensure its placement has not been in the blood vessel. The injection is performed slowly and with consistent pressure.

Subacromial Joint

The structures forming this area include acromion, coracoacromial ligament, rotator cuff tendon and subacromial bursa. The shape of acromion affects the subacromial space.

Fig. 1*a:* *Intraarticular injection using posterior approach.*

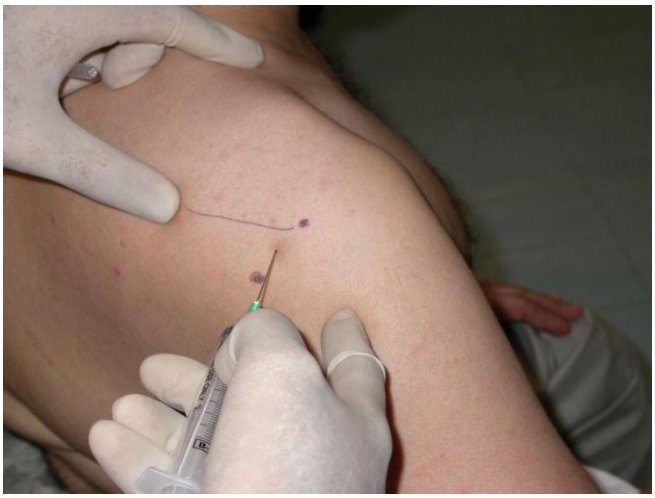

Fig. 1*b:* *Injection technique for sub acromial space.*

The chances of getting impingement syndrome increase as the curve of acromion increases.[4] Subacromial injection using long acting steroid is indicated in subacromial bursitis, rotator cuff impingement, rotator cuff tendonitis and adhesive capsulitis and sub-cranial spur.[5]

Technique

Patient seated and strict asepsis is used. Angle of acromion is palpated, a 21 gauge needle is inserted just inferior to the angle of the acromion and is directed towards the opposite nipple. First aspiration and then injection is performed.

Table 1:

		The Gleno-humeral Joint	Subacromial Joint
Age (years)	Mean	51.65 ± 7.23	34.32 ± 9.54
	Range	42 – 83	26 – 71
Gender	Males	188 (51.7%)	133 (53.85%)
	Female	175 (48.3%)	114 (46.15%)
	Total	**363 (100%)**	**247 (100%)**
Associated Disease	Trauma	145 (39.94%)	44 (17.81%)
	Diabetes	91 (25.06%)	31 (12.55%)
	Hypertension	43 (11.84%)	36 (9.91%)
	IHD	36 (9.91%)	21 (8.5%)
	None	48 (13.22%)	115 (46.5)
	Total	**363 (100%)**	**247 (100%)**

Results

In our experience of 363 patients of adhesive capsulitis and 247 patients of subacromial impingement syndrome treated from June 2004 to June 2009, these approaches proved to be much beneficial and simple.

Anterior approach for intra-articular injections for shoulder joint is used mostly. It has the disadvantage that anteriorly the space is narrow and one may find difficulty while introducing needle into the joint. Furthermore, anteriorly it is very difficult to approach the sub-acromial space.

Posterior approach has the advantage that it is wide posteriorly and one can inject not only into subacromial area just below the angle of acromion but also into the shoulder joint 2-3 cm further below the acromion angle. Secondly no major nerve passes around this approach and makes it safer.

References

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