

Reduction of Anterior Dislocation of Shoulder in Mdantsane, a South African Township by Mitra's modification of Kocher's Technique

Abstract

Kocher's technique is widely used for reduction of Anterior Dislocation of shoulder by Orthopaedic Surgeons and Emergency Medicine Physicians. Due to a wide frequency of patients coming to the Emergency Medicine Department, I tried a modification of Kocher's technique and taught my junior colleagues' ways to reduce easily an Anterior Dislocation of shoulder within minutes.

Introduction

History

Mdantsane is the second biggest African township after Soweto in South Africa. The struggle for the fight against Apartheid started from these two townships. Democracy came in 1994 after the fall of Apartheid government. From 1994 onwards till this date, alcohol related injuries and interpersonal violence related to alcohol is on the rise. 3) Various dislocations of the body is related to alcohol and motor vehicle accidents.

Who was Kocher

Emil Theodor Kocher ((25 August 1841 – 27 July 1917) was a Swiss Physician, known for his works on the thyroid gland. He received the Nobel Prize in Medicine and Physiology in 1909. In 1870, he became famous for the technique he used for reduction of Anterior Dislocation of Shoulder [1]. Known as the Kocher's technique, it's still being used by Orthopaedic Surgeons and Emergency Medicine Physicians. 4.

Various types of Anterior Dislocations of the Shoulder is Seen

1. Recurrent Anterior Dislocations due to enlargement of the Capsular Sac

Review Article

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Received: 11 September, 2024; **Accepted:** 29 October, 2024; **Published:** 05 November, 2024.

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2. Habitual Anterior Dislocations due to the need of the pleasure of sedative. Age – 30 and above
3. Acute Anterior Dislocations

Injury – Fall on an outstretched hand but more due to pub fights causing extreme turning at the shoulder and a tear of the capsule. Externally rotated and extended arm assaulted by a trauma. Rotator Cuff Tears and fractures of the Glenoid Labrum are usually associated with acute dislocations of the shoulder.1)

Presentation and Time

Some anterior dislocations present in the Emergency Medicine Department, within half an hour of its occurrence and some may come hours and days after dislocation. Those who come late are not possible to reduce because of development of fibrous tissue and clotted blood within the joint. They have a better chance in opening and reducing the shoulder by surgical techniques. Therefore, a detailed history and examination of neurovascular deficit

is essential.

Patients present themselves with abduction and external rotation of the affected arm, held by the uninjured hand. Movements are restricted and a neuromuscular deficit of the axillary nerve

Prominence of the head of humerus, anteriorly and the feeling of empty glenoid, when examined posteriorly.

Injury to the axillary nerve and even brachial plexus is a neuropraxia and is reversed after reduction.

Plain Xrays

Anteroposterior, lateral, oblique and axillary views are taken.

Relaxation

Relaxation with conscious sedation, the use of intravenous Pethidine 100 mg and Valium 10 mg is used. The dose is increased with muscular, alcohol dependence and reduced with poor musculature and the age of 60 plus.

Waiting for 20 minutes after intravenous injection and proper sedation is seen and felt. Its important to have an Intravenous Normal Saline 10 percent line be given on the other uninjured arm.

Reduction by Kocher's technique

1. Kocher's technique should not be used in patients over the age 70 years. The bony osteoporosis of the humerus may cause a secondary fracture while externally rotating, one should confirm beforehand that the patient is sedated and relaxed [2].
2. Remove clothes over the injured shoulder.
3. Kocher gives us the following directions.
4. Hold the 90 degrees flexed forearm at the elbow with your left hand and the hand with your right hand.
5. Using a slight traction, externally rotate the injured shoulder and at the same time adduct the shoulder by pushing the elbow towards the abdomen.

6. Continue the external rotation and adduction to the extreme, pushing the elbow towards beyond the chest or abdomen.
7. The hand is internally rotated and placed on the opposite shoulder.
8. There will be a sudden click and one can feel the head going inside the Glenoid cavity
9. There will be a sudden reduction in pain and the shoulder curvature looks normal.
10. Rest, Cuff and Collar Sling and Check Xray of Post reduction.

Complications of Anterior Shoulder Dislocation

1. Being a shallow joint, its most prone to dislocations in teenagers.
2. Numbness, weakness and tingling due to the involvement of Axillary nerve from dislocation of the shoulder.
3. Blood vessel damage showing as bruising around the shoulder.
4. Tearing of muscle, ligaments and tendons around the shoulder joint 5.

Problems and Anomalies

I have been using the Kocher's technique for reduction of Anterior Shoulder since 1979, in India, Kingdom of Bhutan, Niamey, Niger, Bulawayo, Zimbabwe, Mthatha, Republic of Transkei and at Cecilia Makiwane Hospital, Mdantsane, Ciskei [3].

The problems I faced, at all times:

1. The patient shifted from the couch during reduction
2. Some patients fell to the floor and the need for nurses to lift the sedated patient back on the bed
3. The sedation came off and the patient needed to be re sedated and waiting again till the patient is stable

4. Re triaging needs to be done to check clinical parameters
5. Darkening of the skin of the shoulder due to axillary nerve damage and hemorrhage
6. To counter these, I realized that a stabilization of the Acromioclavicular joint is needed.

shoulder joint.

7. The body will continue to lie in a supine position and will not turn or fall off the stretcher
8. Continue with the Kocher's technique.
9. It would be much easier to reduce than before.

Mitra's Modification of Kocher's Technique

1. Check Sedation and stable clinical parameters
2. Request a nurse or a junior doctor to use the thin plastic body shield
3. Turn it into a rope
4. Ask your assistant to go towards the head of the patient and gently turn it around the axilla.
5. Tell your assistant, not to apply any traction.
6. This will hold the acromioclavicular joint and the

Conclusion

I have taught this simple modification to thousands of doctors and nurses who do the reduction of Anterior Shoulder Dislocation within minutes of the patient's arrival in the Emergency Medicine Department. This is the first time that such a method is being used and no literature based on stabilizing the Acromioclavicular Joint before trying the Kocher's technique is ever found. I humbly acknowledge using my name, Mitra's Modification of the Kocher's Technique for reduction of Anterior Dislocation of Shoulder.

You can find more information about me from the link https://en.m.wikipedia.org/wiki/Amitabh_Mitra

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Citation: Amitabh Mitra. "Reduction of Anterior Dislocation of Shoulder in Mdantsane, a South African Township by Mitra's modification of Kocher's Technique." *J Neur Imag Neur Med* (2024): 107. DOI: [10.59462/JNINM.2.1.107](https://doi.org/10.59462/JNINM.2.1.107)