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Combination of Local Anesthetics and Corticosteroids as Pain Management in Supraspinatus Tendinitis: A Case Report

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ABSTRACT

Introduction: This study aimed to report the treatment of tendinitis in combination with local anesthetics and corticosteroids. **Case presentation:** A man, 34 years old, came to the hospital with complaints of pain in the right shoulder. This pain is felt especially when moving the right shoulder, and the patient also cannot raise his right hand. Pain when moving the right arm appeared after falling off a motorbike about 1 month ago. The intensity of pain has been getting higher for the last 14 days, especially when going to bed, so the patient complains of difficulty sleeping. The patient has been treated at the public health center for a month and has received pain relievers. Physical examination showed vital signs within normal limits and pain intensity of 8/10 based on the visual analogue scale. Examination of the extremity shows the abduction of pain starting at 60°-70° on activity and no pain on passive movement. In the special tests, the Neer test is positive, the Hawkin test is positive, and the Empty Can test is positive. The patient was diagnosed with supraspinatus tendinitis. The treatment for this patient is supraspinatus tendon injection. The anesthetic agent used was 2% lidocaine combined with 20 mg triamcinolone corticosteroids. This procedure is performed under ultrasound guidance for precise injection sites. Evaluation after the action found no side effects. After 1 month of action, the patient felt that the pain was greatly reduced (1/10) and the joint movement was not limited. **Conclusion:** The use of a combination of triamcinolone and lidocaine is beneficial in reducing pain in cases of supraspinatus tendinitis.

Keywords: corticosteroids, local anesthetics, supraspinatus muscle, tendinitis, triamcinolone.

Introduction

The supraspinatus tendon is a part of the rotator cuff that often experiences tendinitis. The prevalence of tendinitis in the supraspinatus tendon reaches 24 incidences per 1000 patients.[1,2] The onset is usually acute, occurring after overuse or mismovement of the shoulder joint. Although 60% of patients with shoulder complaints will recover on their own after 1 year, shoulder pain has a tendency to recur from time to time. The cause of shoulder pain itself is not clear unless it is due to trauma.[3,4]

Supraspinatus tendinitis is generally exacerbated by carrying heavy loads either in front of, on, or some distance from the body. Pain is constant to the point of disturbing rest and sleep.[5] Usually, the patient tries to keep the tendon at rest by lifting the scapula, giving the impression of a shrug. Then patients with supraspinatus tendinitis often experience a decrease in the function of movement of the shoulder so that there is interference with daily work, and muscle wasting can occur and develop into a frozen shoulder.

The musculotendinous unit of the shoulder joint is prone to tendinitis because, firstly, there are repetitive movements, and secondly, because the musculotendinous functional space is very narrow and limited by the coracoacromial angle, making it easy to impingement due to extreme joint movements. Third, the blood supply to the musculotendinous unit is very limited, making it difficult for healing to occur if a microtrauma occurs. All of these factors contribute to tendinitis in one or more of the tendons of the shoulder joint. If calcium deposits accumulate around the tendons, treatment will be more difficult. Tendinitis of the shoulder joint often coexists with bursitis, adding to functional impairment and pain.[6,7] This study aimed to report the treatment of tendinitis with a combination of local anesthetics and corticosteroids.

Case Presentation

A man, 34 years old, came to the hospital with complaints of pain in the right shoulder. This pain is felt especially when moving the right shoulder, and the patient also cannot raise his right hand. Pain when moving the right arm appeared after falling off a motorbike about 1 month ago. Initially good movement. But the longer, the more limited because of pain. Pain, especially when the arm is actively moved. If the hand is not moved, pain is not felt. The intensity of pain has been getting higher for the last 14 days, especially when going to bed, so the patient complains of difficulty sleeping. The patient has been treated at the public health center for a month and has received pain relievers. The drug is able to temporarily relieve shoulder pain, but complaints will recur if the patient does not take the drug.

Physical examination showed vital signs within normal limits and pain intensity of 8/10 based on the visual analogue scale. Examination of the extremity shows the abduction of pain starting at 60°-70° on activity and no pain on passive movement. In the special tests, the Neer test is positive, the Hawkin test is positive, and the Empty Can test is positive. The patient was diagnosed with supraspinatus tendinitis. The treatment for this patient is supraspinatus tendon injection. The anesthetic agent used was 2% lidocaine combined with 20 mg triamcinolone corticosteroids. This procedure is performed under ultrasound guidance for precise injection sites. Evaluation after the action found no side effects. After 1 month of action, the patient felt that the pain was greatly reduced (1/10) and the joint movement was not limited.

Discussion

Supraspinatus tendinitis is often associated with shoulder impingement syndrome. It is believed that impingement of the supraspinatus tendon causes supraspinatus tendinitis, i.e., inflammation of the supraspinatus/rotator cuff tendons and of the peritendinous tissues.[8-10] The supraspinatus muscle is part of the rotator cuff, a group of muscles that moves the shoulder joint. The supraspinatus muscle functions to move the arm up and away from the body by a range of 60-120 degrees. If there is an injury to this muscle, the pain will occur in the range of that degree, and the pain will disappear outside of that range. This phenomenon is called the painful arch syndrome.[4,11]

The main key in determining the existence of a rotator cuff problem is the presence of pain accompanied by muscle weakness. Lidocaine injection is one way to determine the difference between true muscle weakness and muscle weakness due to pain. Patients with a rotator cuff tear will have persistent muscle weakness with relief of pain, whereas a rotator cuff tendinopathy will have normal muscle strength after the pain has resolved. Plain anteroposterior and lateral axillary radiographs are required in patients who have lost shoulder mobility. Photo radiography is not a standard examination in patients with shoulder pain unless there is a history of trauma with severe shoulder pain.[12-15]

There are two ways to treat supraspinatus tendinitis, namely conservative and interventional. Conservative management using oral analgesic drugs and physiotherapy. Intervention therapy is carried out with local anesthesia and corticosteroids if the pain is not relieved by conservative treatment. One study stated that giving steroids were effective and had minimal side effects on the tendons after the procedure. Other research says corticosteroids can inhibit tendon function and necrosis and increase the risk of tendon rupture. For this reason,

the use of injectable corticosteroids is limited to once every 6 months.[13]

Patients should be educated that after the procedure, local reactions due to corticosteroids may occur within 24-48 hours after the effects of lidocaine wear off. If local effects occur, the patient is advised to apply ice wrapped in a towel on the shoulder for 20 minutes three times a day. The patient is asked to maintain proper posture with retraction and depression of the shoulder to avoid pain for a week. In patients with limited movement, physiotherapy programs can be continued.

Conclusion

The use of a combination of triamcinolone and lidocaine is beneficial in reducing pain in cases of supraspinatus tendinitis.

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