

Treatment of Scapulothoracic Periarthritis with C-Shaped Needle Knife Release

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Abstract: To introduce one case of Scapulothoracic Periarthritis Treated by "C" needle knife loosening. [Methods] under local anesthesia, the patients were given the "C" needle knife release operation, and the patients were instructed to perform functional exercises such as shoulder joint activity. [results] after the "C" needle knife release treatment, the pain symptoms of shoulder joint disappeared, the activity disorder of shoulder joint improved obviously, and the follow-up was not recurred for 5 months. [Conclusion] the "C" needle knife has a significant effect on periarthritis of shoulder, simple operation, less complications, high safety and wide application range, which can effectively improve the symptoms and functional activities of shoulder joint of patients, and solve the problem of high effective rate and low cure rate of traditional needle knife treatment.

Keywords: Needle knife; lysis; scapulothoracic periarthritis; case analysis

1. Introduction

Periarthritis of shoulder (periarthritis of shoulder) is short for periarthritis of shoulder, which belongs to the category of "arthralgia" in traditional Chinese medicine, also known as "Fifty shoulder", "shoulder wind", "shoulder coagulation" and so on [1,2]. This disease occurs in people about 50 years old, and is more common in women than in men, and more common in one side. It mainly refers to a kind of chronic and aseptic inflammatory reaction caused by injury and degeneration of joint capsule and soft tissue around shoulder joint [3, 4]. Its clinical manifestations are pain and functional limitation during shoulder joint movement [5], mainly pain in the early stage, inflammatory adhesion and muscle atrophy around the shoulder in the late stage, which seriously affect the daily life of patients [6,7,8]. Scapulothoracic periarthritis is a common clinical disease, because the shoulder joint is the joint with the largest range of motion of the whole body, which is easy to strain, and the disease is easy to relapse. The general treatment method is difficult to achieve the purpose of radical cure of this kind of disease. The traditional treatment methods, such as local pain point blocking treatment, drug treatment and surgical treatment, can temporarily relieve the pain of patients and improve the range of motion of the affected shoulder joint, but the treatment is easy to relapse and has many complications, causing serious economic pressure and psychological burden to patients [9]. In order to find a better treatment method, this paper reports a case of periarthritis of shoulder treated by "C" needle knife release analysis.

2. Methodology

2.1 Patient data

Patient, Li, male, 45 years old, came to our hospital on August 1, 2020. Chief complaint: left shoulder pain with limited activity for 4 months, aggravated for 1 week. The patient reported that there was no obvious inducement for left shoulder pain with shoulder joint dysfunction 4 months ago. After massage at home, the symptoms did not improve, and the back shoulder pain aggravated, accompanied by limited left shoulder joint lifting, flexion, extension and abduction. For further diagnosis and treatment, he came to our hospital. Physical examination after admission showed tenderness (+) in the anterior, posterior and lateral parts of the shoulder, dysfunction of shoulder joint movement, flexion:

115 °, extension: 30 ° and abduction: 65 °. Blood routine examination, electrocardiogram, liver and kidney function and blood coagulation were performed in our hospital.

3. The operation

3.1 Surgical instruments

Sterile gloves, sterile gauze, adhesive tape, iodophor cotton ball, 1% lidocaine hydrochloride, needle knife, treatment table and other surgical instruments were prepared before operation. The needle knife specification was 0.80 × 50mm (as shown in figure a). The needle knife used during operation was manufactured by MAANSHAN bond Medical Instrument Co., Ltd.

3.2 Preoperative operation and treatment

3.2.1 Needle knife "C" line

From the midpoint of the coracoid process of the scapula, it traverses through the intertubercular groove of the humerus, and then goes back to the line about 5cm above the armpit. The shape of the line is like a transverse "C" shape (as shown in Figure b). From front to back, there are coracoid muscle, attachment point of short head of biceps brachii (coracoid process point), insertion point of teres major and subscapular muscle (humeral nodule node), and long head of biceps brachii Tendon attachment (intertubercular sulcus of humerus); insertion of teres minor (below greater tubercle of humerus); attachment of long head of triceps brachii (subglenoid tubercle).

3.2.2 Anesthesia and treatment before operation

Ask the patient to take the sitting position, the operator and the patient sit opposite, fix the points at the coracoid process point of the left shoulder joint, the node of the humeral nodule, the groove point between the humeral nodules, the lower part of the greater tubercle of the humerus and the node under the pelvis, disinfect the above four points with Iodophor cotton ball, and the operator uses 1% lidocaine hydrochloride for local infiltration anesthesia at each point, and uses 0.80 × 50 mm needle knife for operation. First, release the first point, according to the needle knife four step needle standard into the needle knife, when the needle knife and skin vertical, knife edge line parallel to the tendon of the treatment point, slowly break the skin into the skin, straight to the coracoid apex outside the bone surface, vertical sparse and horizontal stripping technique each 2 to 3 times, and then along the bone outward stripping 2 to 3 times, in order to release the local soft tissue and adhesive joint capsule. The needle knife release technique for the insertion point of teres major and subscapularis (node of humeral nodule), the attachment point of long head tendon of biceps brachii (groove point between humeral tubercles), the insertion point of teres minor (below greater tubercle of humerus), and the attachment point of long head of triceps brachii (node of Infrapelvic tubercle) is the same as above. When the operator feels the needle knife loose, it is completed. After the operation, slowly withdraw all needle knives and stop bleeding by local compression for 3 minutes, the needle edge was covered with sterile gauze and bandaged. The bandage was removed after 3 days.

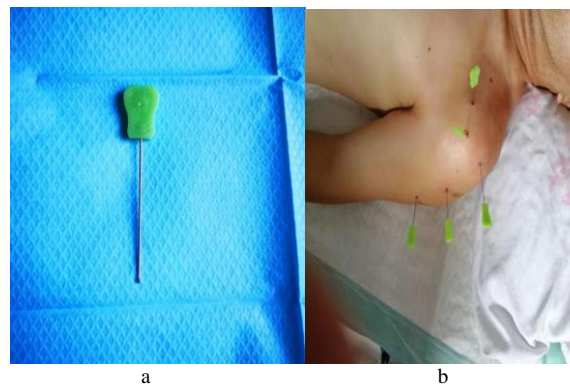


Figure 1: Figure a shows the needle knife used by the operator during the operation; figure B shows the schematic diagram of the patient during the operation.

3.3 Postoperative functional exercise

After the operation, the patient was instructed to fix the shoulder joint for 7 days. After 7 days, the fixation was removed and the shoulder joint functional exercise was performed, such as "climbing the wall to touch the height, holding hands behind the body, combing the hair on the affected shoulder joint and arm" twice a day, 30 to 50 times a time, and each activity should reach the maximum range of activity as far as possible. The patients were followed up for 6 months.

4. The results

Five months after the operation, the shoulder pain disappeared and the shoulder joint function returned to normal. The patients could bend forward, extend backward and abduct to normal angle independently. The daily functional activities were not limited. There was no recurrence during the follow-up period.

5. Discussion

Scapulohumeral periarthritis is a common disease in clinic, which occurs in the middle-aged and elderly people about 50 years old. Women are more than men. It refers to the chronic aseptic inflammation of shoulder joint capsule and surrounding soft tissue. The main clinical manifestations are shoulder joint pain and limited activity [10, 11, 12]. According to its characteristics, scapulohumeral periarthritis can be divided into primary and secondary. There is no specific cause of primary scapulohumeral periarthritis. The causes of secondary scapulohumeral periarthritis include tendinitis, impingement syndrome, injury and so on. At present, the pathogenesis of scapulohumeral periarthritis is not completely clear, and most of them are considered to be related to nerve factors, psychoendocrine and inflammatory fibrosis factors.

At present, there are many physical therapy methods for scapulohumeral periarthritis, such as local pain point closure treatment, surgical treatment, acupuncture treatment, etc. the above treatment methods have certain curative effect on relieving shoulder pain symptoms, but there is no obvious improvement on the situation of shoulder kinetic energy dysfunction, and it can not effectively relieve the adhesion, scar and contracture of soft tissue around the shoulder joint, such as acupuncture treatment. Although the pain of the shoulder has some relief, but the function of the shoulder can not be improved, such as surgical treatment, although it can improve the range of motion of the shoulder joint, but the secondary adhesion caused by surgical scar will also cause many complications, which will often cause great economic and psychological burden to patients.

The advantages of "C" needle knife in the treatment of scapulohumeral periarthritis: needle knife has the advantages of simple operation, low cost, high safety, quick effect and wide application, The treatment method of acupotomy is to combine traditional Chinese medicine with modern medicine. On the one hand, Acupotomy can play the role of "needle", which can promote qi and relieve pain, relax tendons and dredge collaterals; on the other hand, Acupotomy can also play the role of "knife", which can release the adhesion caused by aseptic inflammation of shoulder joint and relieve its compression on nerves and blood vessels [13], which is more effective than traditional methods. The results are better and more conducive to the recovery of local blood circulation, nerve function and shoulder joint function [14,15].

The patient's shoulder joint symptoms and function were not significantly improved after self massage treatment before treatment in our hospital, but the shoulder joint symptoms and function were significantly improved after "C" needle knife release treatment. Needle knife medical research found that scapulohumeral periarthritis is a typical self compensatory disease. After a local lesion is injured by abnormal mechanics, in order to protect and repair the injured lesion, the human body will form local pathological changes such as adhesion, scar and contracture. Moreover, due to the protection mechanism of the human body itself, the functional activities of the shoulder joint will be limited. Needle knife tenderness point treatment only selects 2 or 3 tenderness points of the shoulder joint for release treatment, which can not destroy the pathological structure of the whole network around the shoulder joint, so the treatment effect is greatly reduced. However, the "C" shaped needle knife whole release can be achieved through the adhesion of soft tissue at several anatomical parts of shoulder joint. Scar and contracture can be effectively released to destroy the three-dimensional network pathological framework around the shoulder joint, which creates conditions for the human body to repair the balance

of the normal anatomical system of the shoulder, and ultimately achieve the purpose of curing the disease, thus solving the problem of high effective rate and low cure rate of traditional needle knife treatment.

Although the advantages of "C" needle knife release surgery in the treatment of scapulohumeral periarthritis are very obvious, it also has its shortcomings. It is pointed out that first of all, the requirements for the operator are very high, and sufficient understanding of the anatomy can avoid damaging the blood vessels and nerves at the operation site. Secondly, there are few reports on this medical record, and its application effect still needs further research and discussion.

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