

TREATMENT OF FROZEN SHOULDER

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ABSTRACT

Objective: To determine the role of acupuncture in the management of frozen shoulder.

Material and Method: This study was conducted on patients with frozen shoulder at Pain and Plegia center Peshawar from the year 1999 to 2005. Patients having frozen shoulder as sequelae of hemiplegia, those having pain in the region of the shoulder and upper arm due to cervicobrachialgia or due to pain in suprascapular region were excluded from this study. Patients with advanced uncontrolled diabetes but without restriction of movements around shoulder joint were also not included in the study. All patients were treated with electro-acupuncture around the rotator cuff muscles. An isolated trigger spot was identified at the tendon of long head of biceps brachii in the intertubercular sulcus (bicipital groove). In most cases this trigger spot gradually faded away. Only in three cases the trigger spot was stubborn enough to be treated with local instillation of 40mg. of triamcinolone acetone.

Results: Out of 17 cases, 15 (88%) had complete recovery. Only two cases failed to respond. One among them had adhesive capsulitis while other after a year turned out to have malignancy.

Conclusion: The lesion in frozen shoulder is inflammation of the tendon sheath of long head of Biceps brachii localized in the intertubercular sulcus. Frozen shoulder is a treatable condition and acupuncture can play an effective role in it.

Key words: Frozen shoulder, Electro-acupuncture, Trigger spot.

INTRODUCTION

Frozen shoulder, is a disabling and sometimes severely painful condition,¹ having vast nuisance value, as it has proved highly resistant to different available therapeutic techniques. Analgesics, all sorts of physiotherapy, manipulation under Anesthesia and finally surgical intervention though prove helpful but still remain questionable towards recovery. The result is that the patient remains incapacitated and as soon as he does away with palliative measures his condition goes back to the initial state. In the long run it leads to the wasting of rotator cuff muscles and if prolonged the patient may enter a severely handicapped condition termed as adhesive capsulitis. Looking at the course of disease currently an optimistic approach is in vogue that it is a self-limiting condition. Patients usually recover but they may never regain their full range of movement. Frozen shoulder lasts for about 6-30 months.¹

Steroids injections intra-articularly are

used in treating frozen shoulder, and patients who receive the injection earlier in the course of disease recover more quickly².

This study was conducted to study the role of acupuncture form of treatment as the main therapeutic technique to find out a way to treat frozen shoulder.

MATERIAL AND METHODS

From 1999-2005, 17 cases of frozen shoulder were treated in our pain clinic. Inclusion criteria was that all the cases who presented with pain in the shoulder joint with restricted movements around the joint for various duration of time.

Exclusion criteria were that all cases with cervicobrachialgia or having pain in the scapular region, referred to upper arm but having no restriction of movements. Patients with uncontrolled chronic diabetes presenting with pain in the shoulder but no restricted movements

Sex and age distribution of patients treated

Sex	No. Of Patients	25-45 Years	45-60 Years	60-63 Years
Males	10	1*	4	5
Females	7	nil	5	2

Table 1

around the joint were also not included.

These patients aged 45-63 were unable to raise their affected arm to the level that they could put their hand on head. In this effort, they would tilt their head to the affected side. Duration of the illness was from 3 months to as long as a year. These patients were already under treatment of surgeons and were labeled as frozen shoulder. As none of them reported in early stage of disease thus they had taken ample time to get the ailment treated by different techniques mainly being physiotherapy and analgesics. In their routine course these cases were stubborn cases that did not respond to conventional treatment. Limitations of movements around the effected shoulder joint were found to be because of muscle guarding and spasm of the rotator cuff muscles. This symptom is the first to be treated.

Electro-acupuncture around the shoulder joint effectively relieves the spasm in a relatively short time period of 4-6 sittings, releasing the joint and increasing its range of movements. Infra red therapy is used to give heat to the joint that causes a sense of well-being in these cases. Cupping an ancillary technique of acupuncture, proved to be of paramount importance in giving final touches to relieve the feeling of pain around the shoulder joint. In all ten days cupping is done once or twice for achieving optimum results. After five to six days of rigorous treatment manipulation to the shoulder joint was given only to three cases in which restricted movements around shoulder joint were not completely released. Hand of the affected side was kept on opposite shoulder and therapist standing behind the patient carefully put pressure on elbow so that hand on opposite shoulder was raised. In second manipulation patient sitting on chair took his affected arm to his back and therapist carefully manipulates it posteriorly, taking care to prevent dislocation of the shoulder joint, as during this manipulation shoulder joint becomes very unstable and has the danger of dislocating out of glenoid cavity.

Though in three resistant cases we tried the manipulations as indicated and it was helpful in furthering the improvement. Once the spasm around the joint is released the acute pain is relieved. The site of actual lesion is then traced. It presented in the form of painful spot at the

intertubercular sulcus upon the tendon of long head of Biceps brachii. The lesion is localized and is pinpointed in the intertubercular sulcus. No further treatment was required except heat therapy to this small area. In due course of time this trigger spot gradually fades away. But during this time period patient is to be kept under watch as the same trigger spot may again flare up to acute frozen shoulder. After first course of treatment comprising of ten sittings patient's symptoms were relieved up to 80- 90%. They were given rest for ten days. And again they were reassessed at the end of this period. A single analgesic for five days, Calcium-vit D supplement for 20 days was prescribed to these patients, while 500 mg of mefenamic acid was advised as per requirement. In case the trigger spot did not improve 0.5 – 1.0 ml of triamcinolone acetonide 40 mg. Preparations was injected at this site keeping the needle parallel to the tendon and making sure that drug is injected around the tendon in the tendon sheath and not in the tendon proper. This finally resolved the condition. The whole course of treatment was one month with active treatment for only ten days. For the rest of the period the patient was kept under

Duration of illness

Sex	3-6 months	6-9 months	9-12 months
Males	5	1	2
Females	7	nil	2

Table 2

watch and palliative measures were done for the trigger spot to prevent any exacerbation.

RESULTS

With the above treatment regimen 15 cases recovered fully within a month. In most of these cases there remained a feeling of mild tenderness or soreness at the trigger point. Pain at trigger spot in three of these cases was stubborn enough to require some more treatment. Finally in these three cases the trigger spot were locally injected with triamcinolone acetonide. The lesion behind the frozen shoulder is inflammation of the tendon sheath around tendon of long head of Biceps brachii in the intertubercular sulcus. This trigger spot is acutely painful, resulting in muscles around the joint going into spasm, limiting the joint movements and causing pain to the joint. In our opinion this trigger spot though painful but is not the major problem. The major problem seems to be the guarding of muscles around the joint causing spasm. This spasm actually causes limitation of movements and thus disability and diffuse pain in and around the shoulder joint. If this spasm is

somehow relieved then trigger spot can gradually heal.

Among the failures one case was adhesive capsulitis while second failure case after 10 months turned out to be having malignancy.

DISCUSSION

Many modalities are tried to treat patients with frozen shoulder with varied results. During the initial painful freezing stages, treatment is directed at pain relief. The patient is encouraged to use pain as a guide to limit activity, with all pain free activities allowed and all painful activities avoided. Steroids injections intra-articularly are used in treating frozen shoulder. It is reported that the patients who receive the injection earlier in the course of disease recover more quickly^{2, 3}. Physiotherapy as a treatment for frozen shoulder is studied in a trial and it was concluded that better results were produced with exercise performed within the limit of pain than with intensive therapy.⁴ In isolation physiotherapy is found to be of limited benefit but in combination with a steroid injection it is more effective in reducing both pain and disability associated with frozen shoulder.⁵ Although the natural history of frozen shoulder is for ultimate resolution but this may not be complete. In a prospective study of 41 patients with 5-10 years follow-up, it was found that 39% had full recovery 54% had clinical limitations without functional disability, and 7% had functional limitations.⁶ Shaffer et al showed that 50% of his 61 patients with frozen shoulder had some degree of pain and stiffness an average of 7 years after onset of the disease.⁷ Suprascapular nerve blocks may be beneficial in terms of pain relief but not the movements of the shoulder joint.⁸ Arthroscopic selective capsular release is another technique that can be used to treat painful shoulder.⁹ A very interesting report informs that treatment of frozen shoulder with topical 40% gallium nitrate for 120 min resulted in greatly reduced pain and crepitus almost immediately, with complete restoration of range of motion, with pain remaining essentially absent for over 1 year. Mechanisms of action are hypothesized to include anti-inflammatory, bone density improvements, antibacterial, anti-iron III and anti-aluminum III effects. This report claims that proper use of gallium III may be effective in terminating pain and inflammation of arthritis for years, often with a single treatment.¹⁰

With such diversified results in conventional form of treatment, multidimensional approach is another hope to find an answer to the problem of treating frozen shoulder. In 1979, the World Health Organization (WHO) introduced

acupuncture as a remedy for 43 diseases, including frozen shoulder.¹¹ To treat frozen shoulder acupuncture was tried in isolation,^{12,13} in combination with physical therapy¹¹, and in combination with regional nerve block to stellate ganglion and suprascapular nerve (with 1% xylocaine 10 ml).¹⁴ All these studies indicate usefulness of acupuncture as adjunctive therapy to treat frozen shoulder though in none of these a lasting result was obtained and after some time the pain recurred. Our opinion is that in the above studies, the root cause of the problem was neither identified nor treated, thus it remained and caused recurrent problems. In our study in treatment of these 15 cases of primary (Idiopathic) frozen shoulder, not only this therapeutic technique was effective, but it also unmasked the underlying pathology. The trigger spot was identified as the root cause of this disabling painful condition. We identified and kept a watch on the tender spot till it recovered completely or it was then alternately injected with drug for complete relief.

In one of the patients the trigger spot was finally localized between acromioclavicular ligaments and was injected with the drug. The depth of the painful spot was indicating that the lesion was in the underlying bursa and was localized. Subacromial injection of steroids was used in a study to treat frozen shoulder and in this article author advocates that higher doses of the drug may be better than the lower for rotator cuff tendonitis.³ In our opinion this was a crude method and the drug was in fact injected in to the bursae. It can be speculated that only a small part of the drug would have found its way to the site of lesion. That is how the writer advocates higher doses of the drug for achieving desired results. We achieved far better results as the site of lesion was identified and pinpointed and a small quantity of drug 0.5-1.0 ml was injected locally giving optimum results, preventing any undesired effects of intraarticular injections¹⁵.

CONCLUSION

The lesion in frozen shoulder is inflammation of the tendon sheath of long head of Biceps brachii localized in the intertubercular sulcus. Frozen shoulder is a treatable condition and acupuncture can play an effective role in it.

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