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RESEARCH ARTICLE

YOGA AND NATUROPATHY INTERVENTION IN THE MANAGEMENT OF PERIARTHRITIS SHOULDER-A CASE REPORT

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ABSTRACT

Background: Periarthritis shoulder is a common painful musculoskeletal condition. Its prevalence is 2 to 5% in the general population and more common among people with diabetes. The condition usually occurs in three stages and the cause can either be idiopathic (primary) or occurring secondary to any other conditions like fracture, prolonged immobilization etc.. We report the case of 66 year old female with the complaint of shoulder pain. On the basis of clinical examination the case was diagnosed as periarthritis shoulder. **Methods:** Yoga and Naturopathy intervention was given for 15 days in outpatient ward. After the intervention the pain gradually decreased and the range of motion gradually improved. **Result:** The VAS Scale and SPADI Index showed improvement in scores. No adverse effects were observed during the treatment. **Conclusion:** Yoga and naturopathy have been shown to decrease the pain and improve the range of motion. Hence this study can be done with large sample size in future with longer duration of course of treatment.

INTRODUCTION

Periarthritis shoulder is a painful pathological condition leading to pain, stiffness and significant reduction in active and passive range of motion (1). Its prevalence is 2 to 5% in the general population and in patients with diabetes, it is as high as 20% (2). It is characterized by synovial inflammation leading to pain and fibroblastic proliferation leading to stiffness of joint and restricted range of motion especially flexion, abduction and external rotation (3) (4). The condition can either be primary or secondary. Primary can either be idiopathic or due to illness like thyroid dysfunction, diabetes or autoimmune conditions. Secondary can be due to fracture, prolonged immobilization or surgery (4). It occurs in three stages. First stage is called freezing stage (2 to 9 months) characterized by inflammation and second stage (4 to 12 months) called frozen stage characterized by fibrosis followed by last stage called thawing stage (12 to 42 months) in which the condition tends to resolve (1). Hydrotherapy is one of the treatment modality in the system of naturopathy involving the use of water in various forms including water, ice, steam (5). Revulsive compress is the alternate application of hot (98-104°F) / (36-40°C) followed by cold (55-65°F) / (12-18°C)

provided that the duration of hot application is greater than that of cold and cold application is to remove only the surplus amount of heat presented over the surface by hot application (6). Rope and pulley exercise is known to decrease pain and increase the range of motion in which painful arm is mobilized against the stabilized trunk (7). Acupuncture is a method of piercing the skin with needles which is well known for relieving pain and improving the range of motion (8).

CASE REPORT

A 66 year old female patient reported to the OP Department with the left shoulder pain for the past 3 months and difficulty in mobilization of the shoulder. Patient had difficulty in doing daily activities and inability to lie in the affected side. On examination patient felt difficulty in flexion, abduction and external rotation of the shoulder joint and interscapular scratch test is tested as positive with painful arc test tested as negative. She has the history of type 2 diabetes mellitus for past 14 years and was under medication. Sleep was disturbed as pain getting aggravated at night. Bowel movement was regular and micturition is of normal frequency. Appetite and digestion was good. Patient was well oriented with good complexion.

METHODS

The treatment protocol is mainly relied on reducing inflammation and fibrosis which is the main cause of pain and restricted active and passive range of motion. Yogic practice of Sukshma vyayama for shoulder is given for a period of 15 days to loosen the joints. Revulsive compress-Alternate application of hot compress with the temperature of (98-104°F) / (36-40°C) for 4 minutes and cold compress with the temperature of (55-65°F) / (12-18°C) for 1 minute for 15 days. Rope exercise was performed by the patient for 5 minutes each day for 15 days. Acupuncture was given for 15 days with the local points LI-15, TW-14, GB-21 which are known to improve the range of motion of the shoulder and relieve pain.

RESULTS

During the course of treatment the patient condition gradually started to improve. After 15 days of intervention there are marked changes in pain intensity and degree of range of motion. VAS reduced from 10 to 4. SPADI score reduced from 60% to 30.7%. The increase in the range of motion is depicted in Table 1.

Table 1. Active and Passive range of motion before and after intervention

ROM	Flexion	Abduction	External rotation
Baseline(Active)	90 degree	80 degree	30 degree
Baseline (Passive)	95 degree	85 degree	30 degree
Day 15(Active)	120 degree	110 degree	80 degree
Day 15(Passive)	130 degree	115 degree	85 degree

DISCUSSION

Revulsive compress is well known for producing non-excitant analgesic effect as thermic reaction is wholly suppressed and circulatory reaction is predominantly produced. This compress involves superheating the tissue with the hot application and cold application is just to swipe away the surplus amount of heat over the surface without reducing the skin temperature below normal (6). The effect of heat causes extensibility of collagenous tissue thus reducing stiffness and improving the range of motion. It also increases the opioid peptides which improves the threshold of pain (9). The induced circulatory reaction by the compress also induces changes in the tissue oncotic pressure which pulls water into circulation thereby reducing inflammation which is the main cause of pain (10). Sukshma Vyayama is a set of loosening exercises which helps in loosening shoulder joint, thus relieving stiffness (11). Sukshma vyayama also tunes up the stretch reflex mechanism and tones up muscle fibres, nerves and nerve endings which helps to tone up the muscles around the joints thus easing stiffness and improving the range of motion (12). Rope exercise helps in decreasing the pain and increasing the range of motion as it may increase shoulder muscular activity (7). It helps in stretching the muscles associated with the shoulder joint. The Hoffman reflex (h-reflex) is decreased associated with lower muscle excitability, which allows the muscle to relax through the gamma motor neuron system (13). Acupuncture decreases the pain perception and improves the movement of the shoulder. The local points given in the study can improve the blood circulation in the shoulder and reduce the pain (14).

It also reduces inflammation by downregulating some of the inflammatory cytokines (15). Acupuncture at the local points changes the organization of fibroblast in the loose connective tissue and promotes the release of adenosine which is known to have anti-inflammatory property (16).

CONCLUSION

The given treatment in this study is effective in improving pain and range of motion in case of periarthritis shoulder. Yoga and Naturopathy treatment is thus well known for decreasing the pain and increasing the range of motion without any adverse effects. The study can further be proceeded with longer duration and more sample size in future.

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