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Effectiveness of MFR Technique in Case of Trigger Point of Upper Fibre of Trapezius and Cervicogenic Headache: Randomized Control Trial

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ABSTRACT

The aim of the study was to observe the effect of Myofascial release technique in case of trigger point of upper fibre of Trapezius and Cervicogenic headache.
Method: A total of 60 Patients were divided into two groups: Group A (N=30) Group-B (N=30) Group A Patients received MFR and group B patients received Isometric cervical exercises. Both the therapy were given to the patient for 4 weeks continuously. The pain was measured using a visual analogue scale (VAS).
Result: The present study shows that MFR technique (Group –A) significantly reduces pain more effectively than cervical isometric exercises (Group-B)
Conclusion: Myofascial release technique is more clinically effective in terms of reducing pain in patients with trigger point of upper fibre of trapezius and cervicogenic headache than cervical isometric exercises.

Keywords- Myofascial release, Trigger points, Cervicogenic headache, Arthropathies, Cervical isometrics, Conventional therapy.

I. INTRODUCTION

CGH is a type of headache defined as "head discomfort that occurs in the cervical region (1) can be distinguished with the help of unitemporal pain with neck symptoms. It is described in the aspect of non-shifting headache. (2) Headaches are currently widely known to be associated with the upper cervical spine and can cause chronic daily headaches (3). Cervical headache is the term describing the range of diseases that refer to dysfunction or pain in cervical diseases and is currently included in producing headaches (4), which generally determines mixed disorders that refer to pain in the neck column and in various regions of the head. Diagnostic criteria for CGH are clinical evidence of symptoms of neck cervical compartments or neck soft tissue that caused headache.(5) Accurate diagnosis of cervical headache analysis can be challenging for clinicians. This is part of the symptoms associated with neck headaches and major headaches, as well as various deformities of the cervical spine and muscles, leading to the pain in the head. Reports on patients who reduce pain from anaesthesia calls as a diagnostic guide. Increased reliance on neurological investments as diagnostic tools can increase the value of clinical muscle testing. (6) CGH communication indicators vary among the general population. This differs from the general population, as it does not explain the criteria used to describe headaches in detail. The prevalence index of the total population ranged from 0.4% to 2.5%, with female predominance (2:1). (7) This suggests that pain can occur at various levels, including the lower part of the neck column. (8) Studies conducted in Australia show that mobilization or manipulation on upper cervical columns is the most used physical therapy intervention. Furthermore, active TRP was also associated with arthritis of the neck or the lateral vertebrae of the upper neck (9). Headache pain was primarily associated with pain in the joints,

discs and ligaments of the upper cervical column. From a clinical perspective, TRP can be distinguished as an inactive activity. (10) Inactive MTRP is recognized in skeletal muscle in most adults. (11) Reproduce a headache pattern, for example. Trigger points were present in patients with tension-type headaches, migraines, and headaches within the cluster. (12) Cluttering clinical tests are known to have high sensitivity for diagnosing CGH with the upper neck flexion rotation test [FRT](13).The cervical neck column motion amplitude is approximately 800-900, 700 extensions, 200-450 lateral flexion, and up to 900 rotations on both sides of functional flexion anatomy. However, the movement of the cervical column is multiple, and on any beach, movement is not a simple sum of equal movements from the vertebra to the next spine [14] Individual sources of CGH are structures controlled by nerve roots C1 to C3. When evaluating and treating CGH patients, it is important to be able to clearly identify the symptomatic areas of the upper cervical column. The areas of evaluation are as follows:

Biomechanics, increased soft tissue flexibility, extraordinary reduction in pain and muscle tension. According to the stump of myofascial rigidity and headache to even with muscle weakness with deep cervical of flexors and in people with the front of the head before and chronic pain in the head and pain in the head (17] Myofascial liberation - the type of physiotherapy, which is regularly used for the treatment of myofascial pain. These fabrics are local and support the muscles of the body. Pain usually starts with certain points in your myofascial fabrics called trigger points. Beware of the release of Miamians that reduces pain, eliminates stress and limits trigger points. Understanding the pain points is not easy. It is extremely difficult to limit pain to a specific trigger point. For this reason, fascia release is used regularly only at broad points of muscle and tissue. [18]Most fascial release treatments occur during massage therapy sessions. Some chiropractic's and traditional doctors can also be present. Where the therapist will slightly massage and feel stress or hardened areas. As a rule, the fascia must be flexible and elastic. The therapist begins to massage and stretch the area that is feeling vigorously with light manual pressure. Then the therapist helps the fabric and a case interested in the release of pressure and constraints. The procedure is repeated several times at the same trigger point, and in other trigger points towards the therapist believes that the tension is completely released. Patients with fascial pain can benefit from this type of treatment. People living with chronic headaches can also observe a reduction in pain. Gently massage your weighted muscles and the entire neck and head to relieve headaches.

Aim:

The main Aim of this purpose full attempt is MFR technique in case of trigger point in upper fibre of trapezius and cervicogenic headache is

- To quantify the active trigger points in cervicogenic headache.
- To estimate the effect of manual therapy technique on cervicogenic headache.
- To evaluate pain at cervical muscles.

II. OBJECTIVE

The main goal of this study is to identify the viability of clinical studies to measure the effects of MFR on the active trigger points of the upper trapezius [TRPS] in patients with CGH.

III. HYPOTHESIS

Null hypothesis: We hypothesised that there is a significant effect of MFR technique in case of trigger point of upper fibre of trapezius and cervicogenic headache.

Alternate hypothesis: We hypothesised that there is no significant effect.

Area of study and sample size – The patients with cervicogenic headache were selected, after screening from physiotherapy OPD of University of health science, CSJM University for investigation and experiment. Total 60 subjects with cervicogenic headache and active trigger point will be selected for the study from the selected institute/hospitals as per inclusion and exclusion criteria.

There are two groups of patients:

1. Group A - The subjects receive cervical isometric exercises or cervical muscle strengthening exercise.
2. Groups B – The subjects receive MFR in active trigger points with cervical isometric exercise.

Intervention Protocol-

	MFR in active trigger points with cervical Isometric exercise	**Cervical Isometric exercise**
Frequency of session	6 times a week	6 times a week
Duration of session	5-7 min MFR and 10min exercise	10min
Total no.of session	10 session	10 session

Procedure – Patients were positioned in sitting position comfortably. Their cervical area was exposed and applied with gel or massage oil. The procedure will begin by light stroking using hand over trapezius muscle from proximal to distal of the neck.
Study Duration – The period of Study was between 4-6 months
Ethical Approval – It was obtained from institution, ethical committee of CSJM University, Kanpur.
Type of sampling: purposive sampling method.
Study design- Randomized Clinical Trial.
Data collection: Data was collected from both of the experiments based on pre and post examination with the help of different-scales. There are following scales, which will be used in obtaining pre relief / improvement status in the conditions. There are following methods and tools, which will be used for data collection in study:

- **Physical tool:** Assessment form and consent form.
- **Outcome measure** - VAS [Visual analysis

IV. DATA ANALYSIS

Table No. 4.1.1.1: Visual Analouge Scale

OUTCOME MEASURE	MEANVALUE		CALCULATED 'T'VALUE	TABLE'T'VALUE	LEVEL OF SIGNIFICANCE
	PRE TEST	POST TEST			
VISUAL ANALOUG SCALE	7	1.5	10.59	2.262	P<0.05 (SIGNIFICANT)

Table No 4. 4.1.1.2: Cervical Isometric Exercise

OUT COME MEASUE	MEAN VALUE		CALCULATED 'T'VALUE	TABLE'T'VALUE	LEVEL OF SIGNIFICANCE
	PRE TEST	POST TEST			
VISUALANALOUGSCALE	54.3	70.7	31.59	2.262	P<0.05(SIGNIFICANT)

Myofascial Release Group

Table No 4.1.2.1: Visuaanalouge Scale

OUTCOME MEASURE	MEANVALUE		CALCULATED 'T'VALUE	TABLE 't' VALUE	Level of Significance
	PRETEST	POST TEST			
VISUAL ANALOUGSCALE	6	2.6	12.79	2.262	P<0.05(Significannce)

Table No 4.1.2.2 Cervical Isometric Exercise

OUTCOME MEASURE	MEANVALUE		CALCULATED 'T'VALUE	TABLE'T'VALUE	LEVEL OF SIGNIFICANCE
	PRE TEST	POST TEST			
VISUAL ANALOUGSCALE	52.9	68.4	4.34	2.262	P<0.05(SIGNIFICANT)

Conventional Group

Table No 4.1.3.1: Visual Analogue Scale

OUT COMEMEASURE	MEANVALUE		CALCULATED 'T'VALUE	TABLE'T'VALUE	LEVEL OFSIGNIFICANCE
	PRE TEST	POST TEST			
VISUALANALOUGSCALE	5.6	2.4	7.71	2.262	P<0.05(SIGNIFICANT)

Table No 4.1.3.2 Cervical Isometric Exercise

OUTCOME MEASURE	MEAN VALUE		CALCULATED 'T'VALUE	TABLE'T 'VALUE	LEVEL OF SIGNIFICANCE
	PRETEST	POST TEST			
VISUAL ANALOG SCALE	56.9	68.2	11.3	2.262	P<0.05(SIGNIFICANT)

V. DATA ANALYSIS AND RESULTS

Paired "T" Test (VAS)

Group a (Isometric cervical movement)

Preliminary and post-test of visual analogue scale values using the pair "t'test". For a 5% value and a 9-degree of freedom, the value of "t" in the table was 2.262 and the calculated value of "t" was 10.59. An alternative hypothesis was adopted because the calculated value of "t" is higher than the table of values t. As a result, there was a significant improvement in the VAS Scale in isometric movement of the cervical.

Group-B (Fascial Release Group) Preliminary and post-test values for VAS scales using the pair T' test. For 9 degrees of freedom at a service level of 5%, the value of "t" in the table was 2.262 and the calculated value of "t" was 12.79. An alternative hypothesis was adopted because the calculated "t" value is higher than the "t" table. As a result, there was a significant improvement in the VAS scale of the fascia output group.

VI. DISCUSSION

Myofascial pain occurs from the trigger point of the upper fiber of the trapezius muscle and is one of the most common muscle disorders observed by physiotherapists. Myofascial pain syndrome, normally used in physical therapy methods, includes ultrasound, cryogenic, moist wound healing, and manual therapy methods such as trigger points, dislocation methods, fascial release methods, and isometric exercise. In this study, patients with a trigger point above the higher food are random and produced in three treatment groups. Subjects were dealt with in groups (cervical isometry), and groups (fascial release) treated home and stretching exercises. At the end of week 4, post-test values processing was shown from subjects from all groups using an analog visual scale. The analysis of the results shows that all treatment methods are effective in treating trigger points, but comparing all groups receiving isometric therapy with cervical exercise resulted in greater fascia release and reduced pain compared to traditional treatments. A general study conducted as a result of the effect of isometric cervical migration on motor neuron excitability using the triceps. The results of this study concluded that using isometric movement of the cervical to reduce afferent secretion from the neuromuscular spindle and reduce motor neurons in the anterior horn support acidic outcomes. Another study based on the treatment of fascial pain on the shoulder, using the isometric movements of the cervical, is that the treatment immediately helps in decrease in the patient's pathology. Therefore, it is an effective and very suitable methodology for the treatment of triggers. A randomized controlled study was conducted. Blind Examiner 24 hours. Immediate monitoring after application of isometric cervical movements indicates that these patients experience a greater reduction in pain. The results of the above literature review were confirmed by the results of actual studies. This demonstrates the effectiveness of isometric exercise to relieve the pain caused by the muscle trigger points of the upper cervical.

The difference between the effectiveness of the MFR method in the case of trapezius upper fiber triggers and the headaches: A study was conducted to study randomized clinical tests. Fascial trigger points present in 60 patients with the upper trapezius muscle were included in the study and were divided into two groups. Group A and Group B each group containing 30 subjects. Group A subjects were treated with isometric exercises in the cervical, and group B was treated by fascial release for 4 weeks. We found that the MFR method has been proven more effective than isometric movement of the cervical when used to reduce pain.

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