

Case Report

A case non-traumatic neck pain managed with TECAR and conventional physiotherapy: a case report

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ABSTRACT

Neck pain is most common musculoskeletal condition prevailing in India. About 70% have mechanical cause. Causing heavy burden on healthcare system and also on the economy. Trapezitis is an inflammation of the upper, middle, and lower trapezius muscle fibers it is the most common condition seen in Indian physiotherapy setups. The patient usually complains of pain and spasm. Recent evidence is suggestive of effectiveness of conventional treatment approaches in treatment of trapezititis. This case is reporting 22-year male diagnosed with trapezititis is treated with TECAR and conventional physiotherapy. This study reports TECAR with conventional physiotherapy is effective in treatment of pain, spasm and tenderness in patients and also shows improvement in cervical range of motion.

Keywords: Pain, Trapezitis, Neck pain, Chronic pain, Musculoskeletal disorder

INTRODUCTION

Neck pain is a frequent clinical condition that can occur with or without a history of trauma or positive radiological findings.¹ Neck pain is a mechanical problem that affects 70% of people at some point in their life. Mechanical neck pain affects 30-50 percent of the world's population at some point in their lives.²

Trapezititis is an inflammatory pain arising from the trapezius muscle causing severe neck spasm.³ Trapezius pain is nothing but the stress pain and is one of the commonest musculoskeletal disorders. The trapezius is a postural muscle and highly susceptible to go into over use without one knowing. This muscle helps in the neck rotation, side bending and extension and the tightening and spasm of this muscle restricts the range of motions performed. The decrease in motion can negatively affect the mobility of the cervical joints restricted range of motion increases chances of muscle going into tightness.⁴

TECAR treatment can operate in two electric charge transfer modes: capacitive and resistive. The reactions induced by the capacitive system via the capacitive electrode are concentrated on tissues with greater electrolyte concentrations. As opposed to the content, such as soft tissues and muscles a resistive system centered on bigger and more resistant objects Tendons, bones, and articulations are examples of connective tissues. Using these, the treatment provides for an increase in energy transmission via two types of energy transfer. aimed to evaluate the effectiveness of TECAR therapy in the treatment for neck pain.⁵

CASE REPORT

A 22-year-old (male), student who was referred by an orthopedic specialist presented to us With complaints of neck pain (non-radiating) since one month. He described his pain to be gradually Increasing in intensity every time he was travelling for hours. Then intensity of the pain had

been Intermittently increasing/decreasing performing activities like using mobile phone and reading book for more than 10-15 mins of period.

Clinical findings

The Patient was quite definite about the factors which increased his pain while travelling, using smart phone and reading books for prolonged duration. His NPRS level 6. The most painful Position was sitting prolonged duration. There were no red flags identified. On physical examination, his cervical spine range of motion was restricted and painful. He had grade 2 tenderness over bilateral upper trapezius and spasm of bilateral upper trapezius assessed by palpation method. Muscle weakness of deep neck flexors was assumed because of the theoretical concept and chronicity of the pain.

Outcomes measures

NPRS scale, tenderness grading, cervical range of motion device.^{6,7}

Diagnosis

There was no radiological diagnostic testing. As the patient had no radiological finding, he didn't face any diagnostic challenges

Diagnosis was done on the basis of subjective and objective examination of the patient for trapezititis.

Treatment procedure

TECAR therapy: The patient firstly removes all metal cell phones. patient was in sitting position. Exposes the cloths then clean the upper back area with cotton then check the skin sensitivity then apply the plate electrode over lower back region the apply the resistive gel over upper back and use the capacitive electrode the low pulse mode is select and the intensity was on 30% treatment was delivered for 20 minutes by capacitive method bilaterally over upper trapezius in medial to lateral direction.

Conventional physiotherapy-stretching of upper trapezius. levator scapulae 15 sec hold, 3 repetition, neck isometric exercise -10 sec hold 3 repetition.

Outcomes and follow up

Outcome used were NPRS scale and CROM. TECAR therapy was found to be effective in reducing and pain and improve cervical ROM to the neck pain, in day 1 after treatment pain was 4 on NPRS scale and spasm and tenderness of upper trapezius is not present. After 2nd day of treatment pain was 2 on NPRS scale and increase cervical ROM.

Intervention adherence and tolerability

Patient was positive about new treatment approach and was relived with pain and had improved quality of the life.

Strength associated with the case report

Treatment approach used can be effective in the patient having pain as well ROM hence, in order to relive the symptoms of the patient.

Table 1: Pre and post assessment day 1.

Outcome measures	Pre treatment	Post treatment
Pain on NPRS	6	4
Spasm	Present	Not present
Tenderness	Grade 2	Grade 0

Table 2: Pre and post assessment day 2.

Outcome measures	Pre treatment	Post treatment
Pain on NPRS	3	2
Spasm	Not present	Not present
Tenderness	Grade 1	Grade 0

Table 3: Pre and post assessment day 3.

Outcome measures	Pre treatment	Post treatment
Pain on NPRS	2	0
Spasm	Not present	Not present
Tenderness	Grade 0	Grade 0

Table 4: Pre and post assessment of cervical spine range from day 1 to day 5.

Cervical range of motion (In degree)	Day 1		Day 2		Day3		Day 4		Day 5	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Flexion	0°-42°	0-60°	0-60°	0-65°	68	68	56	56	60	65
Extension	0-60°	0-65°	0-60°	0-65°	74	75	68	64	62	64
Right side flexion	0-40°	0-42°	0-40	0-50°	50	55	48	50	48	52
Left side flexion	0-42°	0-45°	0-45°	0-50	54	55	50	48	48	50
Right side rotation	0-68°	0-70°	0-70°	0-75	80	80	68	70	70	70
Left side rotation	0-65°	0-78°	0-78°	0-84	76	74	72	80	70	72

DISCUSSION

Although TECAR therapy has been widely used in physical therapy practice as a physical therapy agent for almost 20 years, there are only a few studies that have investigated its clinical efficacy.⁶⁻⁸

The ability to induce a thermotherapeutic effect in the deep target tissue (deep muscle layers, joints, and tendons) without generating an excessive increase of the superficial (skin) temperature makes TECAR therapy highly tolerable for the patients and suitable for the treatment of a variety of musculoskeletal disorders.⁹ Therefore, TECAR therapy applications could be a treatment option especially in conditions where a dysfunction in blood flow plays an important role in generation and persistence of pain and dysfunction (i.e., osteoarthritis, tendinopathies, and myofascial pain syndrome).¹⁰

Use of TECAR therapy for treating acute and chronic musculoskeletal lesions has yet to be documented in the rehabilitation literature, with the notable exception of the possibility of resolving pain rapidly, reducing edema and decreasing the recovery time.¹¹

Si-Eun et al investigated the effects of corrective exercise and TECAR on cervical alignment, pain threshold, and pain in forward head posture patients. These study results suggest that the intervention method that combines corrective exercise and TECAR Treatment has a more positive effect on pain and ADL ability of forward head posture patient.¹²

The important finding that TECAR therapy has the ability to increase the healing process or in other word decreasing the recovery time, the studies showed That in acute and chronic cases the recovery time decreased, but patients in chronic Stage needed more time of treatment compared to those in acute stage.¹³ TECAR therapy device in traumatic Injuries is very benefit by increasing the healing process, the device increases the Temperature of the tissue and this make an increasing in blood flow to the area of Injury which help in increasing the recovery time.^{14,15}

CONCLUSION

In present case study TECAR therapy was given 5 days for 20 mins by capacitive method bilaterally over upper trapezius in medial to lateral direction it reduces pain intensity also reduce tenderness and spam of trapezius and increases cervical ROM.

Finally in our opinion the using of TECAR therapy in treatment of such kind of Pathologies is effective and give us a good result in a short period of time, with High safety for the patients.

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