

**CASE STUDY****EFFECT OF MATRIX RHYTHM THERAPY ON A CHRONIC CASE OF MEDIAN NERVE ENTRAPMENT AT THE ELBOW JOINT**

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**ABSTRACT**

Pronator teres syndrome is a rare condition, in which compression on the median nerve occurs at the elbow joint. It is a very rare condition compare to carpal tunnel syndrome. Compression can cause pain and numbness in the hand. The most common cause of pronator teres syndrome is compression of the median nerve in between the two belly's of pronator teres muscles. In the case of advanced disease, the pain and numbness can be managed by prednisolone injections. Some of the literature shows massage therapy also works on relieving the symptoms. Matrix rhythm therapy (MaRhyThe) has shown to be beneficial in the treatment of pain and movement disturbances. Matrix rhythm therapy is invented by Dr. Randoll from Germany for the treatment of pain and does not have side effects. The case report was aimed to evaluate the effect of matrix rhythm therapy on pronator teres syndrome which lasted for 60 minutes each day for 3 days and was divided into 3 zones along with other physiotherapy interventions. It showed a positive result in pronator teres syndrome as the pain was reduced on the 3<sup>rd</sup> day of the session.

**KEYWORDS:** Entrapment of median nerve, Matrix rhythm therapy, Carpal tunnel syndrome.

**DURATION:** Received- 13/05/2021, Reviewed- 20/05/2021, Revised/ Accepted- 31/05/2021

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**INTRODUCTION**

The pronator teres syndrome is a rare disorder that can be easily interpreted for more popular carpal tunnel syndrome.<sup>(1)</sup> Entrapment of the median nerve in the arm and forearm may be a distinct clinical problem to differentiate it from carpal tunnel syndrome.<sup>(2)</sup> Excessive grasping and rapid pronation may cause muscle hypertrophy of the pronator teres muscle and median nerve trapping.<sup>(3)</sup> Matrix rhythm therapy (MaRhyThe) has shown to be beneficial in the treatment of pain and movement disturbances.<sup>(4)</sup> MaRhyThe is invented by Dr. Randoll from Germany and is simple and carries no side effects.<sup>(5)</sup> Human cells are rhythmically pulsating in frequency as a normal healthy condition. During the unhealthy situation, these movements are slowed down.

This treatment system stabilizes the cell micro functions that promote cell regeneration and stimulates the rhythmic healing process through micro stretching which positively impacts tissue flexibility to eliminate pain and inflammation of the tissue and promote relaxation. Therefore, best of our knowledge efficiency in treating symptoms of pronator teres syndrome is lacking. This signifies the importance of the current study.

**PATIENT INFORMATION**

A 24-year-old female tennis player was referred to the musculoskeletal department of MGM Physiotherapy Aurangabad. Her primary complaint was difficulty in gripping

the racquet with pain in the front side of the forearm on the right side associated with tingling distal to elbow joint while playing tennis. She experienced sharp shooting pain that was incremental in onset and intermittent in nature along with tingling and numbness in the volar side of the 1<sup>st</sup> to 3<sup>rd</sup> digit. The pain was reported 7 on the Numeric Pain Rating Scale (NPRS) on the initial day before treatment. She described that temporary relief was felt after taking the medications prescribed by the doctor but no other permanent solution was found other than surgery. Therefore, she was advised for physiotherapy.

**CLINICAL FINDINGS**

On palpation, tenderness (G1) was revealed in pronator teres muscle and muscle wasting was noted in thenar muscles of hand leading to difficulty in gripping and grasping activities. On examination, the range of motion (ROM) of elbow joint was complete and pain-free but that of the wrist and metacarpal joints was complete and painful respectively.

There was a significant decrease in the strength of wrist flexors (G3), pronators (G3), and wrist extensors (G4). The sensory examination concluded that dermatomes and myotomes were intact and deep tendon reflexes were normal. Pronator teres syndrome test was positive along with tinell's sign below the elbow joint. Phalen's test was found negative.



**Figure.1:** Applications of matrix rhythm therapy on forearm.



**Figure.2:** Matrix rhythm therapy machine.

### THERAPEUTIC INTERVENTION

The subject was made to sit on the chair with her hand placed comfortably on the couch. The part to be treated was exposed and to minimize the friction caused by MaRhyThe probe, talcum powder was applied over the treatment site. MaRhyThe was applied in a linear stroking manner by pressing the system probe into the soft tissue of the area to be treated. The area of treatment includes an entire volar side of the right upper limb as well as the dorsal side of the forearm. The treatment was concentrated more on tender points to release tightness and pain. The session lasted for 60 minutes each day for 3 days and was divided into 3 zones. The duration was differentiated by giving the treatment for 30 minutes to the flexor aspect of the forearm and 15 minutes each for the flexor and extensor aspect of the arm respectively. Stretching and grip strengthening was also included in physiotherapeutic treatment with MaRhyThe.

### Follow-up and Outcomes

On the initial day, the pain was noted to be 7/10 on NPRS and the pain was reduced to 5/10 on NPRS in the single session of MaRhyThe. And the pain was at 0/10 on NPRS on 3<sup>rd</sup> day of treatment with maximum reduction in the associated complaint.

### DISCUSSION

Median nerve trapping in the arm and forearm may be a distinct clinical problem that must be separated from carpal tunnel syndrome.<sup>(6)</sup> The study was performed to evaluate the impact of MaRhyThe on pronator teres syndrome subjects.<sup>(7)</sup> The study revealed that a single session of matrix therapy was effective in the treatment of pronator teres syndrome in terms of pain relief and enhancement of function.<sup>(8)</sup> The substantial production in pain in the current study may be due to the effect of matrix rhythm therapy which works at a cellular level causing tissue elongation and increased fascia flexibility promoting free fascia and tendon movements. This results in a decrease in tightness and decreases in tendon and fascia stretch encouraging pain to be limited. Blood velocity, artery

diameter, and blood flow in the arteries is increased following matrix rhythm therapy.<sup>(9)</sup> MaRhyThe however cause the amount of blood flow to increase more extensively than massage did. During the session itself, there is a decrease in discomfort and pain due to soft tissue relaxation.<sup>(10)</sup> Best of our knowledge efficiency in treating symptoms of pronator teres syndrome is lacking therefore, the research findings are difficult to equate with other studies.

### INFORMED CONSENT

The author declared that all evaluating patients' consent forms have been obtained from them. The patient had given their permission for their images and medical information to be revealed in the report.

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### How to cite this article

Apurva Deolankar, Kunal Nagwani, Dr. Bodhisattva Dass, Dr. Rinkle Hotwani, Chaitanya A. Kulkarni, Om C. Wadhokar, Waqar M. Naqvi, 2021. Effect of matrix rhythm therapy on a chronic case of median nerve entrapment at the elbow joint. Jour. of Med. P'ceutical & Alli. Sci. V 10- I 3, 1080 P-2745-2747. DOI: 10.22270/jmpas.V10I3.1080.