

**EFFECT OF MATRIX RHYTHM THERAPY AND FACIAL NEUROMUSCULAR
RETRAINING PROGRAM IN BELL'S PALSY: CASE REPORT****Dr. Ketan Bhatikar***

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ABSTRACT

Acute Bell's palsy occurs due to inflammation of the facial nerve. A number of studies published in the recent years have suggested different treatment protocols that are beneficial for facial palsy. It is the need of the century that we should continuously be advanced in newer techniques and technologies in medical field. Matrix rhythm Therapy is a recent therapeutic modality that is beneficial in most of the medical conditions. Matrix rhythm therapy has fewer literatures in various medical conditions including neuromuscular condition. The present case study was aimed to evaluate the effect of Matrix Rhythm Therapy and Neuromuscular Retraining in Bell's palsy. Neuromuscular stimulation was also added as conventional therapy. 2 cases were studied that gave a significant result on visual Analog Scale and muscle strength on pre post data at every 5-day sessions from 1st to 35th sessions. Study so can conclude that Matrix Rhythm Therapy can be associated with standard physiotherapy conventional treatment in the case of severe Bell's palsy, and affected subjects may be likely to have a faster and better recovery than those in whom only conventional physical therapy treatment is applied.

KEYWORDS: Matrix Rhythm Therapy and Neuromuscular Retraining.**INTRODUCTION**

Bell's palsy is a common cranial neuropathy causing an acute unilateral lower motor neuron facial paralysis.^[1] It can be defined as unilateral paralysis of the facial muscles resulting from an intrinsic lesion of the seventh cranial nerve Bell's palsy accounts for almost three quarters of all acute facial palsies, with the peak incidence of the disease between age 15 to 45 years^[2] and affects 11–40 persons per 100,000 population each year.^[3] Bell's palsy results in facial muscles paralysis on the affected side of the face with symptoms like resting asymmetry due to muscle weakness eyelid drooping, hyperacusis, painful auricle area, and taste changes. The symptoms differ in every individual and it ranges from mild-to-severe and voluntary loss of facial movements unilaterally and bilaterally in rare cases.^[4] Most cases of Bell's palsy recover spontaneously within 3 to 5 weeks. 30% of patients may live with chronic disease that leads to further complications like potentially disfiguring facial weakness or persistent lacrimation etc. There is no agreement about treatment, although many methods have been tried.

In physiotherapy there are many treatment modalities and exercise techniques that are being in use. Some are nerve stimulation, acupuncture, low level LASER, Dry needling, Tapping, PNF, Facial stocking, facial resisted exercise etc. Most commonly used is nerve stimulation.^[5] Different neural therapy and exercises have shown

different beneficial results.^[6] Medical and paramedical clinicians are searching more recent advance techniques or modalities that can be used for more effective and early results. Hence the recent interventions aim to promote the recovery process and minimize the risk of complications and long-term effects.

Based on research in Cell Biology Dr. Randoll developed Matrix Rhythm Therapy that provides pulsations in same frequency as normal healthy cells to synchronize and reset the disturbed cell rhythm. Human cells are rhythmically pulsating in frequency of 8-12 Hz in normal healthy condition. During unhealthy situation these movements are slowed down. Matrix Rhythm Therapy That helps to reestablish extra cellular logistics that is removal of waste products and improve micro circulation of oxygenated blood. Relaxes muscle and enhance process of regeneration and healing.^[7] The present case report was aimed to see the effect of Matrix Rhythm Therapy in Bell's palsy patient with other conservative modalities.

CASE REPORT

Case 1: 32-year-old male presented with sudden numbness on the left side of the face after an early morning bike ride; these symptoms had been ongoing and worsened during the 12–24 hour period. Patient also complained of facial drooping in the corner of the mouth, change in drooling and saliva production,

pain around the jaw and inability to close eyelid. Physical examination revealed peripheral facial paralysis of House-Brackmann grade II. corticosteroid-valacyclovir drug was advised and was referred for physiotherapy for further management. On the same day, patient was reassessed for facial muscle strength and physical therapy was initiated. Matrix Rhythm Therapy was applied for muscle area with the aim of primarily metabolism, muscle nutrition, relaxation and edema-pain relief. Nerve stimulation was started on the same day for neuromuscular and nerve facilitation. On the 4th day, exercise with specific neuromuscular retraining for facial nerve palsy was started and was continued for rest of the treatment sessions. A physical therapy program was administered for the subsequent 20 days. At the 3-week follow-up examination, Bell's palsy was determined as grade I, and the treatment was stopped.

Case 2: 29-year-old male presented with early morning gradual pain behind the ear, numbness and headache in left side of the face that gradually increased over the period of 25 hours. Patient also had difficulty in eye closure, increased sensitivity to sound and found marked deviation in mouth angle while talking or on chewing activity. Patient was assessed and diagnosed as peripheral facial paralysis of House-Brackmann grade III and corticosteroid- valacyclovir was started. Patient on 3rd day consulted physiotherapy for the further management. Treatment protocol was same as the case 1 patient i.e. Matrix Rhythm Therapy followed by nerve stimulation and specific neuromuscular retraining exercises. The physiotherapy program was planned out for 40 days. At the 5-week follow-up examination, Bell's palsy was determined as grade I, and the treatment was stopped.



Figure 1: Case 1 pre and post treatment.

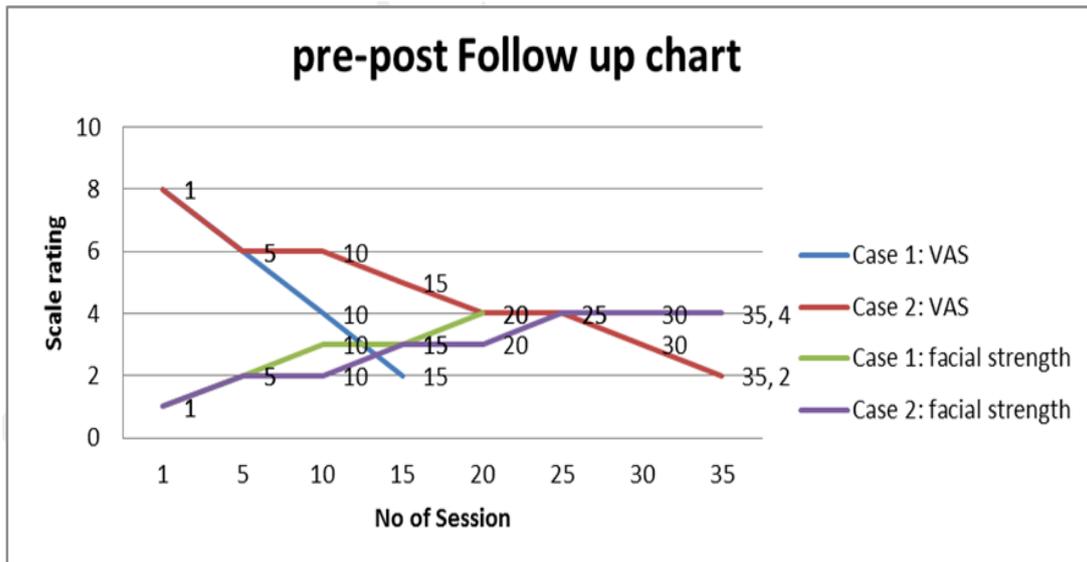


Figure 2: Pre-Post VAS and facial strength flow chart.



Figure 3: Case 2 treated with Matrix Rhythm Therapy.

DISCUSSION

Bell's palsy includes sudden onset, unilateral, weakness of the facial nerve, auricular pain, and headaches. Most studies treat the weakness of the facial nerve by nerve electrical stimulation. In the present study patient was treated with nerve-muscle stimulation with galvanic pulsed mode for 30 count 9 points 3 repetition respectively. Nerve stimulation was given as per intensity tolerated by the patients. A study conducted on sixty patients diagnosed with Bell palsy concluded that the addition electrical stimulation shortly after facial palsy onset of at least 3 weeks of daily improves functional facial movements and electrophysiological outcome measures.^[8] Another prospective randomized study that included 60 patients with mild-to-moderate grade Bell's palsy evaluated the effect of sub-threshold, continuous, low frequency electrical stimulation. The study concluded that Bell's palsy patients treated with sub-threshold, continuous electrical stimulation at 20 Hz showed better facilitates functional recovery than others that were treated with only prednisolone or/and acyclovir as a control group.^[9] Neuro-muscular stimulation holds good results in most of the studies as well as in the present study which could be the results of nerve stimulation and strengthening effect of the electrical stimulation on nerve and muscle contractions. Also nerve-muscle stimulation acts as the assistance in contraction during the nerve-muscle reeducation exercises, during the first phase of facial muscle active-assisted training.

Following the nerve stimulation patient was asked to be in comfortable position with affected side upside. Powder was applied over it in order to avoid the friction caused by the Matrix Rhythm Therapy probe. Matrix Rhythm Therapy was given for 25 minutes on the affected side from frontalis muscle towards the facial nerve junction point, nose towards facial nerve junction point and mentalis towards facial nerve junction point in low to mid intensity. In a pre-post experimental trial, 10

participants between the age group of 40-60 years were assessed and treated for frozen shoulder. The study presented positive results in reducing 30% of pain and increased Shoulder ROM with just of treatment sitting.^[10] In present study both the patients felt great relief from pain and decrease in facial muscle edema that caused muscle relaxation. This could be the result of normal Physiologic logistics at the inter and extracellular level by maintaining the normal pH of the tissues by micro mobilization using the matrix rhythm therapy. Reduction in oedema and improving extensibility of facial muscle could be due to improvement in micro circulation within the tissues which gives the basis of enhanced removal of metabolic waste products. There are also proven evidences that promote matrix rhythm therapy on the peripheral blood circulation.^[11]

Patient was also given exercises with specific neuromuscular retraining for Bell's palsy. Neuromuscular retraining is a proved effective method for rehabilitating facial musculature in patients with facial paralysis. It also helps patients psychological aspect. Retraining included surface electromyographic biofeedback-assisted specific active exercises for facial muscle reeducation and a home exercise program of specific facial movements. In a study patients with unilateral facial nerve disorders and oral synkinesis who were enrolled in physical therapy for retraining stated that brow to oral and ocular to oral synkineses associated with partial recovery from facial paralysis were reduced with facial neuromuscular retraining.^[12] Another study also supported our study that was to describe the current state of physical therapy for facial nerve palsy. The evidence basis for these interventions and how therapy can be integrated with other medical and surgical interventions for Bell's palsy are explained in the study. Study stated that neuromuscular retraining is a useful intervention for treating facial nerve palsy in Physical therapy.^[13]

In the present study it is possible to conclude that, when Matrix Rhythm Therapy is associated with standard physiotherapy conventional treatment in the case of severe Bell's palsy, affected subjects may be likely to have a faster and better recovery than those in whom only conventional physical therapy treatment is applied. It would therefore be worthwhile to always include this type of physical rehabilitation in patients with Bell's palsy, especially in the acute cases for the better and faster recovery.

Footnotes

Consent of Publication: Not applicable

The authors declare that they have no competing interests.

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