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Case Report

Effects of Physical Therapy on a Patient with Bell 's palsy: A Case Report

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ABSTRACT:

Affecting the seventh cranial nerve, known as Bell's palsy and its neuropathy. It is a disorder with significant impact on patient's physical, mental & social health. It is caused by inflammation, traumatic, infections or compressive conditions and cranial nerve edema may lead to compression and ischemia. The symptoms usually include reduced production of tears, altered taste and facial pain .Bell's palsy is an idiopathic, acute peripheral palsy of facial nerve that supplies the muscles of facial expression. Despite an expected 70% full recovery rate, up to 30% of patient's are left with disfiguring facial weakness, involuntary movements or lacrimation.

Keywords: Facial nerve, Bell's Palsy, Physical Therapy.

INTRODUCTION:

Facial nerve paralysis, depending on degree of nerve damage leads to central or peripheral type. Bell's palsy known as idiopathic facial nerve is a form of paralysis or weakness of one side of face. It results from damage to facial nerve (seventh cranial nerve), which innervates muscles of face. The facial nerve transmits nerve impulses to the lacrimal and salivary glands and for this reason during paralysis tearing and salivation are affected. Risk factors include diabetes mellitus, pregnancy, pre-eclampsia, obesity and hypertension. Physiotherapy interventions such as electrotherapy, massage, therapeutic exercise, patient feedback and heat therapy shows recovery , improves facial function and reduces other complications. It affects all age groups including children, youth, adult, and older people and its rate between men and women is equal, but increases in the last stages of pregnancy and its incidence worsens with diabetes patients.

CASE REPORT:

Community Development Trust, Asha Kendra, Puntamba, registered a 27 year old female with right hand dominance and her body mass index was 23. On physical examination the patient had asymmetrical face, could not close her right eye, cannot puff her cheeks, cannot frown her eyebrows. The cause of onset is unknown. Patient presented with history of earache and also history of exposure to cold and could not close her right eye. There is no

significant surgical history associated with this condition. There is no significant medical history like diabetes, hypertension, thyroid problems and no other systemic involvement.

PHYSICAL EXAMINATION:

She was mesomorphic in built, oriented and there was asymmetry between both sides of the face. On clinical examination, there was lack of forehead and eyebrow movement on right side of face. Range of motion assessment showed decreased motion on forehead. When smiling, deviation was seen on the affected right side of the muscle involvement than left side. The patient's hearing was normal and her speech was normal.

DIAGNOSTIC ASSESSMENT:

According to House Brackman Scale the grade is grade IV which is moderately severe dysfunction.

INTERVENTION:

- In the first few days, the physical therapist advice the patient about how to protect face and eyes.
- Show how to perform the tasks of everyday life despite of facial paralysis.
- Assess progress and determine whether specialists need to be referred to.

COMBINATION THERAPY

Intervention	Frequency	Intensity
Eye Closing Exercise	5 repetitions every hour	Active assisted if needed
Active Assisted Range of Motion(smile, eyebrow raise,frowning of eyebrows)	10 repetitions times daily	Isometric hold up to 10 seconds
Proprioceptive Neuromuscular Facilitation	10 repetitions 3 times daily	Activate muscle as much as possible

MODALITY: Electrical stimulation, massage and exercises. Faradic stimulation can be given for 50-200 contractions/ session daily 15 minutes for 20 days.

RESULTS:

The results of this study showed that, physical therapy interventions that included physical therapy exercises and electrical modality improved the functions of facial muscles.

DISCUSSION:

Affecting the seventh cranial nerve, known as Bell's palsy and its neuropathy. It is a disorder with significant impact on patient's physical, mental & social health. It is caused by inflammation, traumatic, infections or compressive conditions and cranial nerve edema may lead to compression and ischemia. The symptoms usually include reduced production of tears, altered taste and facial pain .Bell's palsy is an idiopathic, acute peripheral palsy of facial nerve that supplies the muscles of facial expression. Despite an expected 70% full recovery rate, up to 30% of patient's are left with disfiguring facial weakness, involuntary movements or lacrimation.

There are various theories and studies about the cause of Bell's palsy but the etiology is not known. Several case reports support a familiar tendancy suggesting inheritance of an aberrant facial canal. The study was conducted to find out the effects of physical therapy program on Bell's palsy.

CONCLUSION:

This study concludes that physical therapy exercises and electrical stimulation might be effective in improving the weakness of facial muscles and asymmetry of face due to Bell's palsy.

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