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Research Article

**ACUTE EFFECT OF TRANSPORE TAPE ON MOUTH  
DEVIATION AND ASSOCIATED SYMPTOMS IN PATIENTS  
WITH BELL'S PALS****Ayesha Basharat<sup>1</sup>, Muhammad Mustafa Qamar<sup>1</sup>, Waqas Ahmad<sup>1</sup>, Azhar Ayyoub<sup>2</sup>,  
Qurba Kiran<sup>3</sup>**<sup>1</sup>Sargodha Medical College, University of Sargodha, Sargodha, Pakistan,<sup>2</sup>Avicenna Hospital and Medical and Dental College, Lahore, Pakistan<sup>3</sup>Raising sun institute for special children, Lahore**Article Received:** March 2019**Accepted:** May 2019**Published:** August 2019**Abstract:**

*Bell's palsy is a common, occurring cranial nerve disease that led to the compromise of facial function and appearance. The objective of the study was to observe the immediate effect of Transpore tape on mouth deviation and symptoms in patients with Bell's palsy. The study was conducted in VIP Niazi Hospital of Sargodha, Pakistan. 25 Bell's palsy patients were selected based on inclusion criteria. The angle of mouth was measured by three-finger index method before and after treatment. The facial function was recorded by modified Synkinesis assessment questionnaire. The angle of mouth improved from  $37.6^{\circ} \pm 1.7^{\circ}$  to  $47.8^{\circ} \pm 2.3^{\circ}$  ( $p < 0.05$ ) and almost all patients showed an immediate trend in improvement in chewing, drinking and puffing of mouth. Transpore tape is a valid supportive therapy in correction mouth deviation and associated symptoms.*

**Key Words:** *Transpore tape, Bell's palsy, Mouth deviation, Quality of Life, Facial function***Corresponding author:****Dr. Muhammad Mustafa Qamar,**

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## INTRODUCTION:

The term Bell's palsy refers to weakness of the facial muscles due to facial nerve injury [1, 2]; resulted in paralysis of the affected part of the face & loss of regular facial expressions & functions, like mastication and voluntary behaviours and spontaneous emotions[3, 4]. It accounts for most frequent facial palsies. The highest incidence is 15-45 years of age[5]. Previous data determined the prevalence and incidence of range 11-40, although figures as high as 240 to as low as 8/100,000/year. [6]. Men and women were almost equally affected with ratio 45:54; although incidence evidenced high in pregnant woman[7]; increases with increased age of the individual as an odds ratio of 2% per year increase in age [8]. There are many etiologies of Bell's palsy as idiopathic[3] vascular abnormalities or Tumors of the intracranial cavity[4], congenital abnormalities or CNS degenerative diseases[9], traumatic injuries of Bell's nerves [1]. Intra temporal causes are bacterial and viral infection [10]. Extracranial causes are a malignant tumour of parotid gland [11]. Most recommended treatments include medicine, [12]massage, exercise therapy, [13] electric stimulation, [14], neuromuscular retraining, [15] manual therapy, [2, 16], steroid or injection [17], surgery[18] massage, inhibition of Synkinesis, relaxation exercises, emotional expression exercises, and coordination exercises showed early recovery in symptoms of Bell's nerve damage [19]. Transpore tape is widely used as supportive therapy in different brain injuries [20] and supportive therapy to support eyelid/ eyelashes [21]. It may be used as supportive therapy in Bell's palsy. The aim of this prime study was to find out the effectiveness of Transpore tape for early rectification of angle of mouth and symptoms in patients with Bell's palsy.

## MATERIAL & METHODS:

The study was designed to determine the acute effects of transpore tape in the management of Bell's palsy patients. The study was conducted in a private physical therapy clinic in one-year duration on facial palsy patients as data were collected on patient's availability at different occasions in the clinic. The informed consent was taken according to the Helsinki accord. The inclusion criteria of the patient were a 1<sup>st</sup> attack of facial paralysis without any known causes, as well patients came physical therapy department within the first week of Bell's palsy. Patients who did not fill inclusive criteria were excluded. Patients with Bell's palsy suffered from mouth deviation towards normal side complaint of difficulty in chewing of food and drinking of water properly, and even they could not puff their mouth with air. Mouth deviation

measured as the angle of the mouth, which is the angle of opening of mouth varied due to unilateral paralysis of facial muscles; was measured by three-finger index before and after application of Transpore tape. The suggested normal angle is  $50.3 \pm 6.2^\circ$  for male and  $49.9 \pm 6^\circ$  for female [22]. Symptoms were assessed by using a modified Questionnaire based on Synkinesis Assessment Questionnaire.

## STATISTICAL ANALYSIS:

Data was presented in graphs, and percentage Data was compiled, analyzed via SPSS (statistical package for the social sciences) version 20 for windows. The paired t-test was used to assess the changes.  $<0.05$  set as statistically significant.

## RESULTS:

A significant change was observed in mouth angle; it improved by 21 % with Transpore tape application. Before treatment, the angle of mouth was  $37.6 \pm 1.7$ . It was improved to  $47.8 \pm 2.3$  ( $p=0.029$ ) Fig-1).

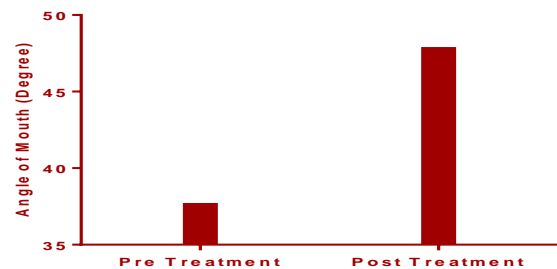


Fig 1: Angle of the mouth at pre and post-treatment

The facial function was recorded by modified Synkinesis assessment questionnaire. The patients were asked to chew food, drink water, and puff mouth with air immediately before and after tape application. A trend shows improvement in symptoms but not statistically significant (Fig 2).

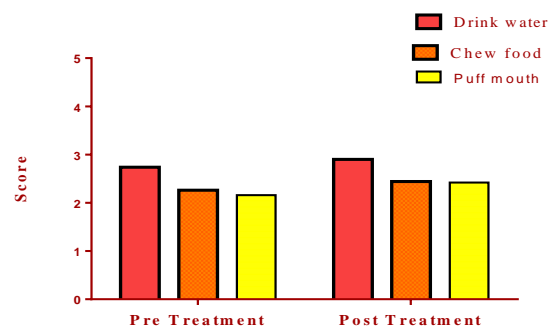


Fig 2: Modified Synkinesis assessment score before and after treatment

**DISCUSSION:**

The objective of the current study was to investigate the effects of transpore tape in early rehabilitation of Bell's palsy. Every patient with unilateral paralysis of facial muscle has typical symptoms of facial muscle & expression control inability on the affected side, muscle weakness and twitching, incomplete eye closure with dropped eyelid, change in eating and drinking mould on the affected side. There were multiple treatment options used by a physical therapist for the rehabilitation of Bell's paralysis. This study was conducted to create awareness about Transpore tape implementation in conservative treatment.

Electrical muscle stimulation is a safe and useful method. A researcher incorporated electric muscle stimulation in Bell's palsy to assess the safety and potential efficacy [23]. They concluded that the application of lighter and smaller probe is more acceptable and safer in Bell's palsy patients. The different researcher studied the effect of different physiotherapy modalities on facial paralysis for contracture prevention as well as prevention of atrophy & rehabilitation were evaluated; justified that superficial heat therapy, massage, and exercise have a place in the management of lower motor neuron lesion [13, 24, 25]. Studies provided information about the use of transpore tape in the upper eyelid to relieve symptoms, eye angle deviation, and infection prevention by improving eye closure [21]. The tape supports the entire length of the eyelid and corrects the overriding of Orbicularis oculi. After the use of transpore tape, there was a reduction of symptoms [21]. In Pakistan most traditional method used for Bell's palsy treatment is electrical stimulation along with facial massage & free exercises, which take some days to produce noticeable improvement of symptoms; but patient expected to have visible relief on even 1<sup>st</sup> day. So along with permanent recovery achievement, its equally essential to have some supportive therapy showed quick relief of symptoms, as previous studies suggested that transpore tape may be useful in eye support and mouth deviation correction. In our study, it provides support for mouth opening and mastication. Transpore tape applied to the patient's mouth on the affected side from the corner of the lip towards the temple. Patients showed significant improvement in mouth angle correction measured by scale ( $37.6^{\circ} \pm 1.7^{\circ}$  to  $47.8^{\circ} \pm 2.3^{\circ}$ ), & then patients were asked to chew food on paralyzed side, there was little accumulation of food or patient feel better in chewing & swallowing of food.

Transpore tape may be useful in Bell's palsy due to the fact that it can prevent excessive pulling of the mouth by assisting in mouth control. Although patients experienced improvement in functions along with natural healing of nerve without treatment, persistent facial muscle weakness disturbed facial functions and even quality of life. Choosing the correct treatment & support option for patients can optimize early recovery.

**CONCLUSION:**

Transpore tape is a valid supportive therapy in correction mouth deviation and associated symptoms.

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