

Outcome of Bell's Palsy- An Institutional Study.

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Background and purpose: Bell's palsy represents sudden onset of lower motor neuron type of facial palsy in the absence of other cranial nerve involvement. Pathophysiologically, it has been described mostly due to viral infection, and early use of antiviral therapy, steroids and physiotherapy has shown to limit the disease and helps in early recovery from palsy. With the objective to evaluate over all clinical outcome of the patients presented with Bell's palsy with our treatment strategies this study was performed. **Material and method:** This is a prospective analytical study with non probability consecutive sampling technique over the duration of 6 months. Continuous variable like age is presented using mean and standard deviation. Categorical data are presented as percentage and analysis of outcome of the treatment is done using Fischer's exact test. Statistical analysis was done using SPSS -20. **Result:** Total number of patients enrolled in the study was 19, where mean age was 33.47 (SD 15.71) years. Bell's palsy was more commonly seen in female patients (58%). House Brackmann grading of facial nerve palsy at the time of presentation was four. There was significant association of early treatment with complete recovery in this study. **Conclusion:** Early treatment of bells palsy with acyclovir, steroids, and physiotherapy has shown promising result in most of the studies; and this holds true in this study as well, where delaying the treatment was significantly associated with poorer recovery.

Key words: Bell's Palsy, Facial Nerve Palsy, Physiotherapy

Bell's palsy represents sudden onset of lower motor neuron type of facial palsy in the absence of other cranial nerve involvement. Pathophysiologically, it has been described mostly due to viral infection, and early use of antiviral therapy, steroids and physiotherapy has shown to limit the disease and helps in early recovery from palsy.¹⁻³ Clinically House- Brackmann has given grading system of the facial nerve palsy which is between normal to complete paralysis (Table-1).^{4,5} Various treatment strategies has been used for the recovery from the disease with varied outcome.³ With the objective to evaluate over all clinical outcome of the patients presented with Bell's palsy with our treatment strategies this study was performed.

Treatment Strategies:

Oral Acyclovir is started as soon as the patient present to the hospital along with short course of oral steroid in tapering dose. Tear drops and sun glasses are prescribed to prevent corneal ulceration.

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Physiotherapy is instituted immediately which includes facial massage, facial muscle exercises and electrical muscle stimulation. Electrical muscle stimulation is given in different motor points of facial muscles where stimulus threshold is determined by the origin of muscle contraction. Faradic current is given for nerve trunk and Galvanic current for the motor point of facial muscle. Physiotherapy is given until there is marked improvement of facial palsy. MRI brain is done in cases who had poor recovery from facial palsy to rule out any underlying mass lesion.

Material and Methods:

Study design: Prospective analytical study

Sampling technique: Non- probability consecutive sampling

Site of study: B&C Medical College Teaching Hospital, Birtamode, Jhapa, Nepal

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Duration of study: 6 months

Table 1: House Brackmann grading of facial nerve palsy

Grade	Characteristics
I. Normal	Normal facial function in all areas
II. Mild dysfunction	Gross Slight weakness noticeable on close inspection May have slight synkinesis At rest, normal symmetry and tone Motion Forehead - Moderate to good function Eye - Complete closure with minimal effort Mouth - Slight asymmetry
III. Moderate dysfunction	Gross Obvious but not disfiguring difference between sides Noticeable (but not severe) synkinesis, contracture, or hemifacial spasm At rest, normal symmetry and tone Motion Forehead - Slight to moderate movement Eye - Complete closure with effort Mouth - Slightly weak with maximum effort
IV. Moderately severe dysfunction	Gross Obvious weakness and/or disfiguring asymmetry At rest, normal symmetry and tone Motion Forehead - None Eye - Incomplete closure Mouth - Asymmetrical with maximum effort
V. Severe dysfunction	Gross Only barely perceptible motion At rest, asymmetry Motion Forehead - None Eye - Incomplete closure Mouth - Slight movement
VI. Total paralysis	No movement

Data collection and Analysis:

All the patients who presented with Bell's palsy are enrolled in the study. Patient's demographic data like name, age, gender are entered to the preformed proforma. Initial House- Brackmann grading of facial nerve palsy is noted along with duration elapsed before starting treatment. Final outcome at 3 months was recorded as the evidence of recovery.

Continuous variable like age is presented using mean and standard deviation. Categorical data are

presented as percentage and analysis of outcome of the treatment is done using Fischer's exact test. All the test are done using SPSS -20.

Result:

Total number of patients enrolled in the study was 19, where mean age was 33.47 (SD 15.71) years. Bell's palsy was more commonly seen in female patients (58%) than the male counterpart (Figure 1). Similarly, it was the left side (58%) which was more affected in the collected sample (Figure 2). The most common House Brackmann grading of facial nerve palsy at the time of presentation was four (Figure 3). Among all the cases of different grades of Bell's palsy, the complete recover at 3 months was noted in 74% of the patients; however, 10% had no recovery and 16% had partial recovery (Figure 4). Majority of the patients sought medical attention for their pathology within two days, but, some of them delayed even upto 21 days (Figure 5). There was significant association of early treatment with complete recovery in this study (Table 2). Gender, side of weakness, and House Brackmann grading of facial nerve paralysis on presentation is not associated with recovery of the Bell's palsy (Table 2).

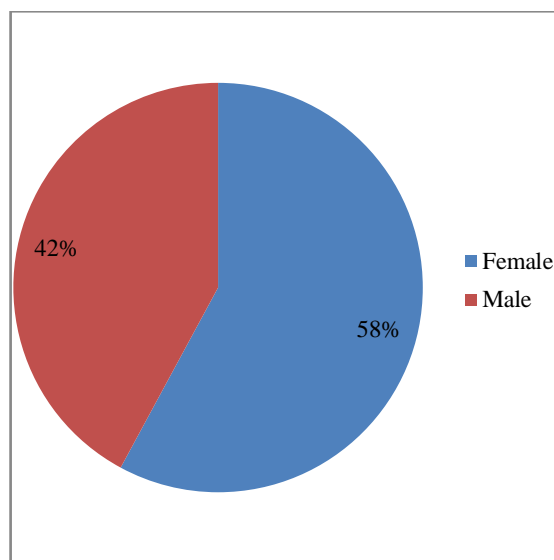


Figure 1: Distribution of gender

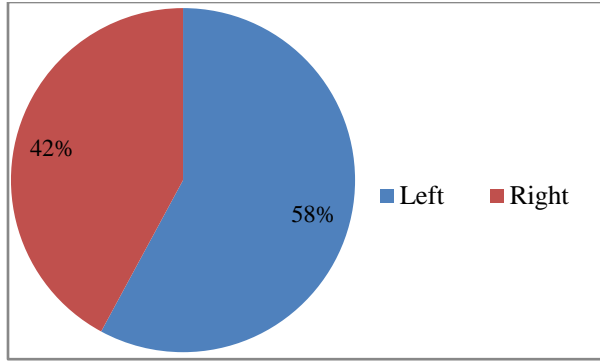


Figure 2: Side of the paralysis

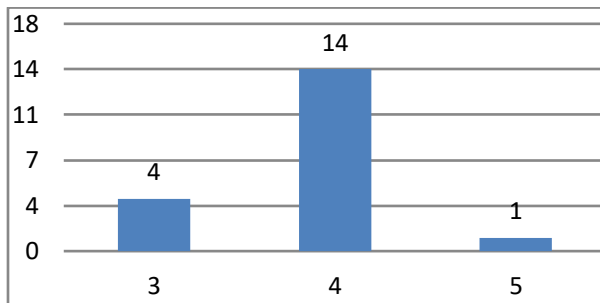


Figure 3: Frequency of House Brackmann grading on presentation

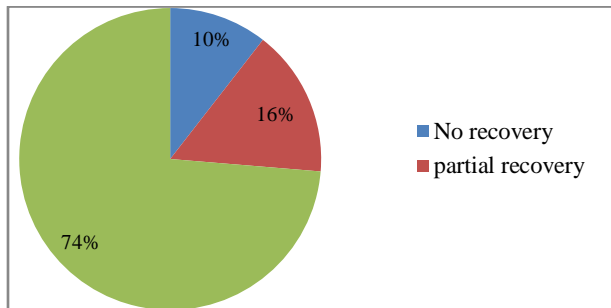


Figure 4: Amount of recovery following treatment

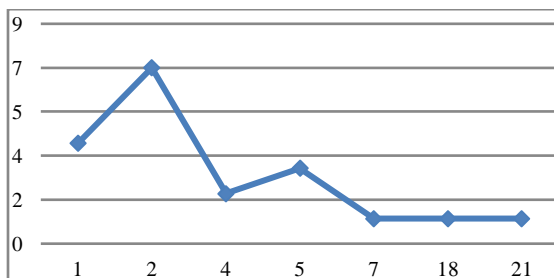


Figure 5: Duration lapsed before treatment was started

Table 2: Association of different categories with recovery at 3 months

Category	Sub category	treatment			P Value
		No recovery	partial recovery	complete recovery	
Treatment starting day	1	0	0	4	0.001*
	2	0	0	7	
	4	0	0	2	
	5	0	2	1	
	7	0	1	0	
	18	1	0	0	
	21	1	0	0	
Gender	F	2	1	8	0.466
	M	0	2	6	
side	L	1	2	8	1.00
	R	1	1	6	
House Brackman n grading on Presentaion	3	0	0	4	0.15
	4	1	3	10	
	5	1	0	0	

*significant P Value

Discussion:

Bell’s palsy is one of the common cause of isolated lower motor neuron types of facial palsy.⁶ It is usually secondary to viral infections.² In this study, majority of the bells palsy was seen more commonly in female patients, however, this was not associated with disease recovery. Presentation was predominantly on left side which were also not associating factor for the recovery of the palsy. Gender predominance is also seen in majority of the literature of the past.⁷ As bell’s palsy is a sudden onset phenomenon most of the patients seek early medical attention this is also common finding in our study. However there were few patients who even waited for 21 days before they sought for treatment, this might be due to various cultural beliefs and bad terrains of Nepal.

Most of the case presented in this study had House Bachmann grade four types of facial palsy. Early institution of the treatment has shown a significant recovery of facial palsy than those who delayed their treatment in this study. Similarly, starting steroids, acyclovir and physiotherapy within 7 days of the palsy has shown the better outcome in most of the literature in the past.^{3,8}

Conclusion:

Early treatment of bell's palsy with acyclovir, steroids, and physiotherapy has shown promising result in most of the studies; and this holds true in this study as well, where delaying the treatment was significantly associated with poorer recovery.

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