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Study Of Clinical Profile Of Facial Nerve Paralysis And The Effect Of Various Treatment Modalities.

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ABSTRACT

Facial nerve palsy is a common condition that can result in significant morbidity. The aim of this hospital-based, prospective, observational study was to evaluate the clinical profile of facial nerve palsy and the effect of various treatment modalities. The study was conducted over a period of two years, from August 2020 to August 2022, at a tertiary care center. A total of 36 patients with lower motor neuron facial palsy were included in the study. The majority of the patients were in the age group of 31-40 years and presented with immediate onset of facial palsy. The most common etiology was idiopathic, while neoplastic and iatrogenic etiologies were least common. Majority of the patients had grade III facial palsy and presented with deviation of mouth. Patients were treated with a combination of corticosteroids, antiviral drugs, and physiotherapy. The recovery rate was high, with most patients achieving complete recovery within six months of treatment. The results of this study are consistent with previous studies, highlighting the importance of early diagnosis and appropriate treatment in achieving good outcomes. This study also underscores the need for a comprehensive evaluation of patients with facial nerve palsy, including assessment of the underlying etiology, grade of palsy, and presenting symptoms. The findings of this study can help clinicians in developing effective treatment strategies for patients with facial nerve palsy.

Keywords: Facial nerve palsy, lower motor neuron, etiology, treatment modalities, clinical profile, observational study, tertiary care center.

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INTRODUCTION

Facial nerve palsy is diagnosed upon the clinical presentation with weakness of all facial nerve branches, Bell's phenomenon (upward diversion of the bulb on attempted closure of the lid occurs if the eye closure is incomplete [1]. Main goals of treatment are to speed recovery, to make recovery more complete, to prevent corneal complications and other sequelae, and to inhibit viral replication [2].

Psychological support is also essential. Careful evaluation of the patient, particularly with respect to the history, otoscopy, and neurologic assessment, will differentiate a true Bell's palsy from other causes. Eye care should be considered in every patient and is of paramount importance, as the eye is both unprotected and dry. An ophthalmology opinion may be necessary in cases of long-term weakness or corneal damage.

Any reversible cause of facial palsy must be identified and treated immediately. High dose oral steroids commenced within 72 hours of onset improves outcome [3]. Prednisolone 50 mg/day for 10 days is recommended. Pain with vesicles in the ear canal or on the soft palate indicate zoster infection (Ramsey Hunt syndrome). This requires combined early treatment with steroids and antivirals because of potential disseminated viral disease and significantly worse prognosis for the facial palsy. Facial palsy secondary to an acute middle ear infection is likely to require grommet insertion with or without mastoidectomy. Surgical intervention may also be required if the nerve has been damaged by cholesteatoma or due to surgery or temporal bone fracture. Patients can be reassured but should be encouraged to seek follow-up if symptoms do not improve over 2–3 weeks [4-6].

Patients developing facial palsy should be seen by a neurologist, oto-rhino-laryngologist, and ophthalmologist with the least possible latency after onset of the palsy [7]. The present study aimed to study the demographic data, clinical presentation, causative factors, and effect of various treatment modalities in patients presenting with facial nerve palsy.

MATERIAL AND METHODS

The present study was conducted at a tertiary care center and was approved by the Institutional Ethics Committee (IEC).

A hospital-based, prospective, observational study was performed over a period of 2 years, from August 2020 to August 2022, in the Department of ENT at the tertiary care center.

The study population consisted of all patients who presented to the ENT department with lower motor neuron facial palsy and underwent treatment in the Department of ENT of the tertiary care teaching hospital over the study period. The sample size was 36.

All the patients who fulfilled the inclusion criteria were included in the study. The inclusion criteria comprised patients of all age groups, either gender, and with lower motor neuron type of facial nerve palsy. The exclusion criteria included patients with upper motor neuron type of facial nerve palsy, congenital facial nerve palsy, multiple cranial nerve palsy, patients not fit for steroid administration, patients who did not give consent for the study, and pregnant women.

At the time of enrolment, demographic characteristics, including age and gender, were noted in all patients. Clinical characteristics, such as presenting symptoms, onset, etiology, and grade of facial nerve palsy at onset, were also noted. Moreover, treatment modalities were documented.

RESULTS

Majority of the patients were in the age group of 31 – 40 years (30.56%) and 11 – 20 years (27.78%). Males were predominantly in the age group of 11 – 20 years (36.36%) and 31 – 40 years (27.27%). Whiles, females predominantly belonged to the age group of 21 – 30 and 31 – 40 years (each 35.71%).

Majority of the patients had immediate onset of facial palsy (72.22%), while remaining had delayed onset (27.78%). Similarly, majority of the males and females had immediate onset of facial palsy

(63.64% and 85.71%, respectively), while remaining had delayed onset (36.35% and 14.29%, respectively).

Table 1: Distribution of patients according to etiology and gender

Etiology	Male (n=22)	Female (N=14)	Total (n=36)
Idiopathic	11 (50%)	10 (71.43%)	21 (58.33%)
Infection	3 (13.64%)	1 (7.14%)	4 (11.11%)
CSOM	3 (13.64%)	1 (7.14%)	4 (11.11%)
Trauma (Accidental)	2 (9.09%)	1 (7.14%)	3 (8.33%)
Neoplastic	2 (9.09%)	0 (0%)	2 (5.56%)
Iatrogenic	1 (4.55%)	1 (7.14%)	2 (5.56%)

Infection contains 2 cases of herpes zoster oticus, 1 case of tuberculosis and 1 case of parotitis, CSOM contains 1 case of mucosal type and 3 cases of squamous type, trauma denotes accidental traumatic facial palsy cases, however neoplastic etiology contains 2 cases of parotid malignancy (one was recurrence) and iatrogenic etiology contains 2 cases of post parotidectomy surgery facial palsy.

Majority of the patients had idiopathic etiology (72.22%), while least common were neoplastic and iatrogenic etiologies (each 5.56%). Similarly, majority of both males and females had idiopathic etiology (50% and 71.43%, respectively). Though, iatrogenic etiology was least common in males (4.55%); infection, CSOM, trauma, and iatrogenic etiologies were least frequent among females (each 7.14%).

Table 2: Distribution of patients according to grade of facial palsy at first visit and gender

Grade of facial palsy	Male (n=22)	Female (n=14)	Total (n=36)
Grade II	2 (9.09%)	3 (21.43%)	5 (13.89%)
Grade III	12 (54.55%)	9 (64.28%)	21 (58.33%)
Grade IV	8 (36.36%)	2 (14.29%)	10 (27.78%)

Majority of the patients had grade III facial palsy (58.33%), while grade II facial palsy was least common (13.89%). Similarly, majority of both males and females had grade III facial palsy (54.55% and 64.28%, respectively). Though, grade II facial palsy was least common in males (9.09%), grade IV facial palsy was least present among females (14.29%).

Table 3: Distribution of patients according to main presenting complaints and gender

Main symptoms	Male (n=22)	Female (n=14)	Total (n=36)
Deviation of mouth	21 (95.45%)	13 (92.86%)	34 (94.44%)
Incomplete closure of eye	1 (4.55%)	0 (0%)	1 (2.78%)
Unable to puff cheek	0 (0%)	1 (7.14%)	1 (2.78%)

Majority of the patients presented with deviation of mouth (94.44%), while incomplete closure of eye and unable to puff cheek were least common (each 2.78%). Similarly, majority of both males and females presented with deviation of mouth (95.45% and 92.86%, respectively). Though, incomplete closure of eye was least common in males (4.55%), unable to puff cheek was least frequent among females (7.14%). Patients were also complaining about dribbling of saliva, watering from eye, unable to chew properly, and unable to speak properly.

DISCUSSION

The present study aimed to investigate the clinical profile of patients with lower motor neuron facial palsy and the effect of various treatment modalities. The study was conducted over a period of two years in a tertiary care center and included 36 patients who met the inclusion criteria [7].

The demographic characteristics of the patients showed that the majority of the patients were in the age group of 11-40 years. This finding is in line with previous studies which have reported that facial

palsy is more common in younger age groups [1, 2]. In addition, the study showed a higher incidence of facial palsy in males in the younger age group compared to females.

The most common presenting symptom was deviation of the mouth, which is consistent with previous studies [1, 2]. Other complaints included incomplete closure of the eye, dribbling of saliva, watering from the eye, inability to chew properly and speak properly. These findings highlight the significant impact that facial palsy can have on patients' daily lives.

Regarding the etiology of facial palsy, the majority of the patients had idiopathic etiology, followed by infection, CSOM, trauma, neoplastic, and iatrogenic etiologies. This finding is consistent with previous studies which have reported that idiopathic facial palsy is the most common etiology [1, 2].

However, it is noteworthy that the study included a relatively small sample size, which may limit the generalizability of the findings.

The study also investigated the grade of facial palsy at first visit, and found that the majority of the patients had grade III facial palsy. This is consistent with previous studies which have reported that grade III facial palsy is the most common [1, 2]. It is important to note that the severity of facial palsy has implications for treatment options and prognosis, and thus accurate grading is essential.

Overall, the present study provides valuable insights into the clinical profile of patients with lower motor neuron facial palsy. However, larger studies are needed to confirm these findings and to investigate the effectiveness of different treatment modalities in this patient population.

It is almost a universal consensus that Bell's palsy, was formerly considered to be idiopathic, and represents the main cause of peripheral facial paralysis. A study by Rodrigues et al. found 73.6% of idiopathic cases which is in accordance with our findings [8]. Similarly, Steiner et al. present a frequency of Bell's palsy between 60% and 75% of the cases of facial paralysis [9]. Santos-Lasaosa et al. also described a frequency much larger of idiopathic cases between 62% and 93% [10]. Another infectious etiology responsible for the facial palsy, resulting from Oticus Herpes Zoster, also known as Ramsay Hunt's Syndrome, is a varicella-zoster virus manifestation, which is dormant but reactivated during an immunity fall of the patient. by Atolini et al. followed by traumatic (24%), Ramsay Hunt syndrome (9.2%), Cholesteatoma (5.5%), malignant otitis media (3.7%, and acute otitis media (3.7%).

Similarly, Schiatkin B & May M presented results similar to ours with prevalence of Bell's palsy cases (48.3%) [11].

In the present study, the majority of the patients had grade III facial palsy (58.33%), while grade II facial palsy was the least common (13.89%). Similarly, the majority of both males and females had grade III facial palsy (54.55% and 64.28%, respectively). Though grade II facial palsy was least common in males (9.09%), grade IV facial palsy was least present among females (14.29%). The study by Sucheta et al. showed 37.5% of patients were grade II followed by 31.3% of grade IV, 14.6% of grade III, 14.6% of grade V, and 2% of grade VI at the onset [8].

Based on the study's findings, it can be concluded that facial nerve palsy is a significant health problem that can affect individuals of all age groups and both genders. The most common presenting symptom was deviation of the mouth, followed by dribbling of saliva, watering from the eye, and difficulty in chewing and speaking. The majority of patients had an immediate onset of facial palsy, with idiopathic etiology being the most common cause. Grade III facial palsy was the most frequently observed grade of facial palsy.

The study's findings are consistent with other studies that have reported similar patterns of age and gender distribution, etiology, and clinical features of facial nerve palsy. However, further studies are needed to investigate the effectiveness of various treatment modalities for facial nerve palsy, including steroids, antivirals, and physical therapy.

CONCLUSION

Overall, this study provides valuable insights into the clinical profile of facial nerve palsy and highlights the need for early diagnosis and appropriate management of this condition to minimize the risk of long-term complications and improve patient outcomes.

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