International Journal of Medical Research Professionals
P-ISSN: 2454-6356; E-ISSN: 2454-6364
DOI: 10.21276/ijmrp

Original Research Article.

Analysis of Prevalence and Prognosis in Bell's Palsy

Mahendra Singh Sisodiya[1], Kiran Bareth[2*]

[1]MBBS, MD, DM (Neurology), Assistant Professor,
Department of Medicine, SP Medical College, Bikaner, Rajasthan, India.
[2]MBBS, MS (Ophthalmology), Medical Officer,
Department of Eye, Government District Hospital, Bikaner, Rajasthan, India.

ABSTRACT

Background: A facial expression is due to the contraction and coordination of the facial musculatures, and this is mainly supplied by the facial nerve. When its function is disturbed, significant alterations may be observed, with impairment of facial expression. The prevalence of the five major causes in the USA are as follows: Bell's palsy (25 cases per 100000 yearly), infection (7.7 cases per 100000 yearly), neoplastic aetiologies (6.8 cases per 100000 yearly), neurologic causes like cerebrovascular accidents (6.8 cases per 100000 yearly) and traumatic reasons (4.1 cases per 100000 yearly). The present study was conducted to determine the prevalence and etiology of bell's palsy.

Materials and Methods: The complete demographic details like age, gender and socioeconomic status was noted amongst all the subjects. The type of treatment received, the risk factors associated were also recorded in a tabulated form. All the data thus obtained was arranged in a tabulated form and analysed using SPSS software. Data was expressed in percentage.

Results: There were 33.3% males (n=200) and 66.7% females (n=400). The recovery rate after treatment was 100% amongst all the patients.

Conclusion: Females were more commonly affected as compared to males and a 100% recovery rate was observed in our study. The most common age group affected was 21-40 years.

Keywords: Palsy, Treatment, Prognosis, Prevalence.

***Correspondence to:**

Dr. Kiran Bareth,
MBBS, MS (Ophthalmology),
Medical Officer,
Department of Eye,
Government District Hospital,
Bikaner, Rajasthan, India.

Article History:

Received: 24-01-2019, **Revised:** 19-02-2019, **Accepted:** 16-03-2019

Access this article online	
Website: www.ijmrp.com	Quick Response code
DOI: 10.21276/ijmrp.2019.5.2.060	

INTRODUCTION

The facial features play an important role during interpersonal communications, and expression. It is of interest from evolutionary[1] and a social point of view.[2] A facial expression is due to the contraction and coordination of the facial musculatures, and this is mainly supplied by the facial nerve. When its function is disturbed, significant alterations may be observed, with impairment of facial expression. Abnormal facial movements and reduced facial expression can impose challenges in interpersonal communications.[3] Bell's palsy, trauma, herpes zoster oticus, surgical removal of vestibular schwannoma and iatrogenic alterations of the facial nerve are common situations that lead to restriction of facial expression.[4] The prevalence of the five major causes in the USA[5] are as follows: Bell's palsy (25 cases per 100000 yearly),[6] infection (7.7 cases per 100000 yearly),[7–9] neoplastic aetiologies (6.8 cases per 100000 yearly),[7] neurologic causes like cerebrovascular accidents (6.8 cases per 100000 yearly)[8-10] and traumatic reasons (4.1 cases per 100000 yearly).[11,12] The present study was conducted to determine the prevalence and etiology of bell's palsy.

MATERIALS AND METHODS

The present retrospective study cross sectional study was conducted in Department of Medicine, SP Medical College, Bikaner, Rajasthan (India) and Department of Eye, Government District Hospital, Bikaner, Rajasthan (India).

The study was approved by the institutional ethical board and all the subjects were informed about the study and a written consent was obtained from them in case follow up was done personally. The complete demographic details like age, gender and socioeconomic status was noted amongst all the subjects. The type of treatment received, the risk factors associated were also recorded in a tabulated form.

Only subjects with acute onset of facial paralysis were included in the study. Subjects with incomplete records were also excluded from the study. Patients with bilateral facial paralysis, disease of central or peripheral nervous system were excluded from the study. All the data thus obtained was arranged in a tabulated form and analysed using SPSS software. Data was expressed in percentage.

RESULTS

The present study included 600 subjects. The mean age of the subjects was 37.82+/-4.86 years. Table 1 shows the distribution of subjects according to gender. There were 33.3% males (n=200) and 66.7% females (n=400). Table 2 shows the distribution of subjects according to age. There were 25% subjects between 0-20 years of age (n=150). There were 73.3% subjects between 21-40 years of age (n=220). There were 33.3% subjects between 41-60 years of age (n=200). There were 5% subjects between 61-80 years of age (n=30). Table 3 shows the prognosis of the subjects with bell's palsy. The recovery rate after treatment was 100% amongst all the patients.

Table 1: Distribution of bell's palsy according to gender

Gender	Frequency	Percentage
Male	200	33.3
Female	400	66.7
Total	600	100

Table 2: Distribution of subjects according to age

Age	Frequency	Percentage
0-20	150	25
21-40	220	73.3
41-60	200	33.3
61-80	30	5

Table 3: Prognosis of the subjects

Prognosis	Frequency	Percentage
Complete recovery	600	100
Partial recovery	0	0
No recovery	0	0

DISCUSSION

Bell's palsy is basically an acute idiopathic facial nerve condition of sudden onset. It is the frequent etiology of lower motor neuron paralysis.[13] Information about facial nerve paralysis is available since ancient times by the Egyptians, Romans, Greeks, Incas and other ancient cultures.[14] The most ancient artistic representation of the facial nerve paralysis is clay head appearance from Egypt that is approximately 4,000 years old, indicating a right peripheral nerve paralysis. In the Middle Ages and in the Renaissance, various artists illustrated figures that had asymmetrical and distorted faces. The first medical research of the condition should be credited to Avicenna.[15] He was the pioneer to establish the differences amongst central and peripheral facial paralysis. Although Sir Charles Bell, who published his results in 1821, is commonly related with this condition, there are two researches, one published by Niclaus A. Friedrich in the year 1798, and the other by Richard Powell in the year 1813, that reported the onset, physical outcome, natural history and recovery before those of Charles Bell.[16]

Acute peripheral facial palsy has an annual incidence of 15-30 per 100,000 subjects.[17] Most subjects recover completely, but around 15-30% are found to be left with varying degrees of end results.[17,18]

In the present study, the mean age of the subjects was 37.82+/-4.86 years. Table 1 shows the distribution of subjects according to gender. There were 33.3% males (n=200) and 66.7% females (n=400). There were 25% subjects between 0-20 years of age (n=150). There were 73.3% subjects between 21-40 years of age (n=220). There were 33.3% subjects between 41-60 years of age (n=200). There were 5% subjects between 61-80 years of age (n=30). The recovery rate after treatment was 100% amongst all the patients. Very few have been published studies on the prevalence of Bell's palsy for different reasons. Clinicians from different specialties observe and manage patients with Bell's palsy; and some subjects with the condition do not go for treatment as it is painless and paralysis is limited, or of shorter duration.[6]

CONCLUSION

Bell's palsy is a self limiting disease with good prognosis. Females were more commonly affected as compared to males and a 100% recovery rate was observed in our study. The most common age group affected was 21-40 years.

REFERENCES

1. Darwin C, Ekman P, Prodger P. The expression of the emotions in man and animals. New York: Oxford University Press, 1998.
2. McGrouther DA. Facial disfigurement. BMJ 1997;314:991.
3. Bradbury ET, Simons W, Sanders R. Psychological and social factors in reconstructive surgery for hemi-facial palsy. J Plast Reconstr Aesthet Surg 2006;59:272–8.
4. Kahn JB, Gliklich RE, Boyev KP, et al. Validation of a patient-graded instrument for facial nerve paralysis: the FaCE scale. Laryngoscope 2001;111:387–98.

5. Bleicher JN, Hamiel S, Gengler JS, et al. A survey of facial paralysis: etiology and incidence. Ear Nose Throat J 1996;75:355–8.
6. Katusic SK, Beard CM, Wiederholt WC, et al. Incidence, clinical features, and prognosis in Bell's palsy, Rochester, Minnesota, 1968–1982. Ann Neurol 1986;20:622–7.
7. Moore GF. Facial nerve paralysis. Prim Care 1990;17:437–60.
8. Ratanaprasatporn S, Rizza A, Lapidot A. Facial nerve palsy: five year survey. J Laryngol Otol 1972;86:155–9.
9. Dennis DT. Lyme disease. Tracking an epidemic. JAMA 1991;266:1269–70.
10. May M. Facial paralysis, peripheral type: a proposed method of reporting. (Emphasis on diagnosis and prognosis, as well as electrical and chorda tympani nerve testing). Laryngoscope 1970;80:331–90.
11. Kamerer DB. Intratemporal facial nerve injuries. Otolaryngol Head Neck Surg 1982;90:612–15.
12. Cannon CR, Jahrsdoerfer RA. Temporal bone fractures. Review of 90 cases. Arch Otolaryngol 1983;109:285–8.
13. Gilden DH. Clinical practice. Bell's Palsy. N Engl J Med 2004; 351(13): 1323-31.
14. Resendel AL. Peripheral facial paralysis in history. Amsterdam: Kugler and Ghedini 1988; pp. 65-75.
15. Kataye S. Facial paralysis as described by avicenna. Ann Otolaryngol Chir Cervicofac 1975; 92(1-2): 79-82.
16. Bird TD, Niclaus A. Friedreich's descriptions of peripheral facial nerve paralysis 1978. J Neurol-Surg psychiatry 1979; 42: 56-8.
17. Grogan PM, Gronseth GS. Practice parameter: Steroids, acyclovir, and surgery for Bell's palsy (an evidence-based review): Report of the quality standards subcommittee of the american academy of neurology. Neurology 2001; 56(7): 830-6.
18. Peitersen E. Bell's palsy the spontaneous course 2,500 peripheral facial nerve palsies of different aetiologies. Acta Otolaryngol 2002; 549: 4-30.

Source of Support: Nil. **Conflict of Interest:** None Declared.

Cite this article as: Mahendra Singh Sisodiya, Kiran Bareth. Analysis of Prevalence and Prognosis in Bell's Palsy. Int J Med Res Prof. 2019 Mar; 5(2): 264-66.
DOI:10.21276/ijmrp.2019.5.2.060