

Original Research Article

Right sided facial palsy more common in males while left sided facial palsy more common in females

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ABSTRACT

Background: The study describes the retrospective analysis of 54 cases of facial nerve palsy patients seen in our neurophysiology Laboratory during February 2016 to January 2018.

Methods: Clinically diagnosed cases of facial nerve palsy encountered at neurophysiology laboratory were analyzed on the basis of their diagnosis, age, sex, side affected and their seasonal occurrence. Patients were grouped in to four age groups of <20 yr, 21-40 yr, 41-60 yr and >60 yr.

Results: Out of total 54 facial palsy cases with the mean age of 34.39±14.25 yr, 29 (53.70%) were males and 25 (46.30%) were females. Facial palsy was most common in 21-40 yr age group (42.59%, n=23), followed by 41-60 yr age group (29.63%, n=16). Nearly equal number of cases of right sided (26; 48.15%) and left sided (28; 51.85%) facial palsy were observe. However, right side facial palsy was more common in males with right side to left side facial palsy ratio of 1.90:1 and left sided facial palsy was more common in females with right side to left side facial palsy ratio of 1:2.57.

Conclusions: Facial palsy cases are uniformly distributed among males and females with preponderance of right facial palsy in males and left facial palsy in females.

Keywords: Bell's palsy, Facial palsy, Neurophysiology

INTRODUCTION

Facial palsy/paralysis is a condition in which there is a lesion of the facial nerve. This disease imposes great psychological and social problems on the individual with the condition.¹ The facial nerve plays a very important role; it supplies all the muscles of facial expression and is responsible for those movements that we take for granted such as smiling, frowning, lifting the eyebrows, closing the eyes and moving the lips and cheeks.¹

Facial palsy patients mainly present with weakness of unilateral motor functions of facial nerve.² Besides the motor functions, the facial nerve also mediates facial movements, and contributes to taste, auricular sensation

and parasympathetic innervations to the lacrimal, submandibular and sublingual glands.³

A literature review has shown that the incidence of idiopathic facial paralysis is 20 cases per 100,000 individuals per year.⁴ Bilateral facial palsy is an extremely rare condition with an annual incidence of 1 in 5 million cases.^{5,6}

Several causes for facial paralysis have been presented in the literature. In two-thirds of the cases, the cause is unknown and such cases are referred to as cases of idiopathic paralysis or Bell's palsy.⁷ Peripheral facial paralysis is considered a diagnostic challenge and every effort must be made to determine the cause so that appropriate treatment can be initiated (3).

Demographic studies have evaluated the effect of season on occurrence of facial palsy. There have been conflicting results in these studies.⁸⁻¹¹

Although many previous studies have commented on different demographic parameters in facial palsy patients, none of them have commented over the predominant side of facial nerve lesion in facial palsy males and female patients.^{9,12-16}

Hence, we planned to retrospectively analyse the predominant side of affection in facial palsy male and female patients. The study also analysed the age and sex specific distribution of facial palsy patients along with seasonal occurrence among facial palsy patients.

METHODS

The study was conducted at Department of physiology and Department of Neurology, Gajara Raja Medical College (GRMC) and associated Jaya Arogya Hospital (JAH) Gwalior, M.P., India. This is a cross sectional retrospective study done on subjects affected with peripheral facial paralysis. In this study retrospective analysis of 54 peripheral facial paralysis cases was done. The facial palsy patients who presented to neurophysiology laboratory of G. R. Medical College, Gwalior during the period of February 2016 to January 2018 (2 years), were reviewed and analysed.

It has been observed previously that nerve conduction studies are the most reliable in the diagnosis of degree and severity of denervation of the facial nerve. Moreover, these studies can offer the prognosis.¹⁷ Hence the patients of clinically diagnosed facial nerve palsy who underwent electro-diagnostic confirmation of facial nerve lesion were included in the study. The patients not confirmed as facial palsy on electro-diagnosis were excluded from the study.

The data of the selected patients was acquired. Patient’s age, sex, date of examination and side of facial nerve lesion were tabulated and analysed.

For analyzing the age wise distribution of patients, we divided all the patients into four age groups of <20 yr, 21 to 40 yr, 41 to 60 yr and more than 60 yr. These groups were named as A1, A2, A3 and A4 respectively (Table 1).

The patients were also classified in to Right sided and left sided facial palsy patients. Under each of the above categories numbers of male and female patients were subdivided (Table 2). For assessment of seasonal occurrence patients date of examination was used. On the basis of date of examination patients were categorized in to four seasons viz. spring (Feb to April), summer (May to July), rainy (Aug to Oct) and winter (Nov to Jan) (Table 3).

Microsoft office excel 2010 software was used for the statistical analysis.

RESULTS

A 54 peripheral facial palsy cases reported to our neurophysiology laboratory were analyzed retrospectively. The mean age of the patients was 34.39±14.25 yr.

The cases were nearly equal among the both sexes with marginally higher number of male cases (29; 53.70%) than that of females (25; 46.30%). Maximum number of patients were in A2 (21-40 yr) age group (42.59%, n=23). The next common age group was A3 (41-60 yr; 29.63 %, n=16) (Table 1).

Table 1: Age and sex wise distribution of facial paralysis patients.

Group	Age group	Male	Female	Total
A1	<20 yr	6	6	12 (22.22) %
A2	21-40 yr	13	10	23 (42.59%)
A3	41-60 yr	8	8	16 (29.63%)
A4	>60 yr	2	1	3 (05.56%)
Total		29	25	54

On analysis of the side of the face affected, nearly equal number of cases were observed with affection of right (26; 48.15%) and left (28; 51.85%) side of the face. However, number of male patients affected with right sided facial palsy were higher compared the left side. In contrast, female patients were more affected with left sided facial palsy (Table 2). Right Side to left side facial palsy ratio in male patients was 1.90:1 and that of female patients was 1:2.57.

Table 2: Distribution of facial paralysis patients according to the side of face affected.

Facial Palsy	Males (% of total males)	Females (% of total females)	Total (% of total patients)
Right Side	19 (65.52 %)	7 (28.00%)	26 (48.15%)
Left Side	10 (34.48%)	18 (72.00%)	28 (51.85%)
Total	29	25	54

Figure 1 depicts the differential presentation of side of facial palsy in male and female patients. Figure shows higher percentage of males (65.52 % of all male patients) affected with right sided facial palsy and higher percentage female (72.00 % of all female patients) affected with the left sided facial palsy (Figure 1).

On analysing seasonal variation in occurrence of facial palsy we observed no any seasonal preponderance with nearly same number of cases occurring in all seasons in both males and females (Table 3).

Table 3: Seasonal occurrence of facial palsy cases.

Season	Male	Female	Total
Feb-April (Spring)	8	6	14
May-July (Summer)	7	6	13
Aug- Oct (Rainy)	7	7	14
Nov-Jan (Winter)	7	6	13
Total	29	25	54

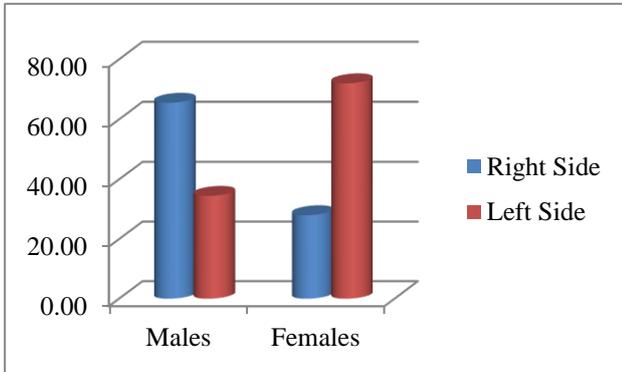


Figure 1: Percentage of total male or female patients presenting with the side of face affected.

DISCUSSION

This study retrospectively analyzed the facial palsy patients from February 2016 to January 2018. In this study, marginal male preponderance (29; 53.70%) was observed. Similar marginal higher numbers of male cases were observed by Lamina and Hanif in a study done on Nigerian patients.¹ However, some authors have observed equal incidence of facial palsy in both genders.^{12,13,18} Maximum numbers of cases were observed in middle age group patients. The similar observations have been reported previously by many authors.^{1,5,14,18} All the patients presented in this study were having unilateral facial palsy. We observed no any patient with bilateral facial paralysis. Bilateral facial palsy is a very rare condition hence may have not come to our laboratory.^{5,6}

Right or left side of affection was not significantly different among the patients. Similar to us no significant difference has been observed previously.¹ However, we observed that right sided facial palsy was more common in males while that of left side was more common in females. To the best of our knowledge none of the previous authors has commented on the ratio of side of facial palsy in males and females separately. The variation in side of affection in males and females may be due to some anatomical or physiological differences in males and females. Further studies may be required to speculate the reasons behind this fact.

We observed no any seasonal preponderance of facial palsy. Similar findings have been observed by may authors.^{13,15,16} However Some authors have observed seasonal variation.^{8,11}

CONCLUSION

Thus, we conclude that Facial palsy cases are uniformly distributed among males and females with predominant age of occurrence between 20-60 yrs. Although total right and left facial palsy cases are nearly equal the preponderance of right facial palsy in males and left facial palsy in females was observed. Seasonal variation is not observed in facial palsy.

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