

Patterns of Facial Palsy in a tertiary Hospital in Ghana

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Abstract

A study to determine the patterns and efficacy of management of facial palsy (FP) was carried out at the ear, nose and throat (ENT) clinic at Komfo Anokye Teaching Hospital (KATH). The procedure adopted included detailed evaluation of signs and symptoms typical of FP, acoustic reflex threshold test and Shirmers test, the use of steroids, physiotherapy and vitamin C. In all, 86 patients suffering from FP were identified. The diseases were caused by Bell's palsy 67, middle ear infections 10, middle ear neoplasms 4, herpes zoster oticus 3, temporal bone fractures 2. Seventy-six out of the 86 were treated successfully. None of the patient with herpes zoster and temporal bone fractures survived. Preponderance of females over males was observed in addition to seasonal incidence of FP. FP was mainly unilateral and common in younger individuals.

Introduction

The facial nerve is the most emotive nerve in the human body. Damage to this nerve is obvious to the on looker and may produce quite inappropriate feelings of depression in the sufferer. Surprisingly paralysis of the facial nerve is common and ranks high among the illnesses requiring medical attention in the ear, nose and throat practice. Hard data on incidence is lacking because often the paralysis is fleeting and does not require medical attention. But current data indicate that about 24/100,000/year is the usual figure quoted for Bell's palsy, the differential diagnosis of facial paralysis is lengthy involving congenital, infection, traumatic, neoplasms, vascular and idiopathic causes. In developed countries, several studies have been out on patients with FP²⁻⁷. In developing countries however, research in facial paralysis and other areas of ENT practice are low due to lack of personnel and facilities. In this paper, we present the results of a study to determine the patterns and management of facial paralysis among patients who reported with the disorder at a major teaching hospital in central Ghana from January through December 2011.

Materials and Methods

Between January through December 2011, 86 patients aged 6-80 years attending the ENT Clinic at Komfo Anokye Teaching Hospital, Kumasi Ghana with confirmed facial paralysis were entered into the study. Patients considered for the study were patients who exhibited signs and symptoms of facial nerve disorders as described by Branchard and Swearigen.

Evaluations of the patients included history, physical examination and diagnostic assessment. Diagnostic assessment was limited to Shirmers test, acoustic reflex threshold (ART), test of the anterior 1/3 of the tongue and month in this season.

Table 1. Diagnosis of 86 patients with facial paralysis with regard to sex

Cause	Sex		Total (%)
	M	F	
Bell's palsy	23	44	67 (78%)
Middle ear infection	4	6	10 (12%)
Middle ear neoplasm	1	3	4 (5%)
Herpes zoster oticus	1	2	3 (3%)
Temporal bone fracture	1	1	2 (2%)
Total	30	56	86 (100)

Table 2

Laterality and rate of recovery of FP among patients				
Cause	Unilateral	Bilateral	Total	No. recovered
Bell's palsy	63	4	67	64
Middle ear infection	10	-	10	10
Middle ear neoplasm	4	-	4	2
Herpes zoster oticus	3	-	3	-
Temporal bone fracture	2	-	2	-
Total	83	4	86	76

Determination of the palsy: whether it is an upper or lower motor neurotic lesion. We could not do other relevant tests such as electroneuronography (ENG), electrogustometry and electromyography due to lack of such facilities

Results

A total of 86 patients reporting to the department of ENT were investigated. The patients presented signs and symptoms that are typical of FP identified in Table 1. It can be observed that out of the 86 cases seen. 67 were caused by Bell's palsy or idiopathic in aetiology. The other remaining caused identified were: Middle ear infections 10, middle ear neoplasm 4, herpes zoster oticus 3 and temporal bone fracture 2. Observe also that the disease affects more females (56) than males (30). FP was also unilateral in 82 cases and bilateral in 4 (Table 2). Treatment regime for patients with Bell's palsy and the other types of cases of FP include administration of steroids, vitamin C and physiotherapy. Of the 67 cases of Bell's palsy. 64 (95%) reported within 1 week and were treated successfully; the remaining 4 cases did not recover. Apparently, they reported late for diagnosis and management.

A close look at the Table also indicates that all the 10 cases. presented with FP caused by middle ear infections recovered. Of the 4 cases with neoplasms causes, 2 recovered. All the cases with herpes zoster oticus and temporal bone fractures died. All the 3 cases with herpes zoster oticus had human immune deficiency virus (HIV) infection.

Table 3 depicts the distribution of patients reporting with facial paralysis in 4 age groups. It can be seen that the highest number of patients recorded were in the 26-45 age group (49%), followed by 6-25 (36%). 46-65 (10%) and 65 (5%).

Table 4 displays the monthly distribution pattern of the disease. We do note that facial paralysis was reported more in the months of October through February totaling 61 cases for these 5 months and at an average of 12.2 per month and less common from March through September, totaling 25 cases and at an average of 3.6 per

Table 3.

Number of patients reporting for FP in for age group.

Age (years)	No. FP	%
6-25	31	36
26-45	42	49
46-65	9	10
>65	4	5
All ages	86	100

Discussion

In this study, we attempted to determine the patterns and management of facial paralysis among patients visiting KATH, Differential diagnosis among the patients revealed the following causes of facial nerve disorders. Bell's palsy (78%), middle ear infections (12%), neoplasms (5%) and herpes zoster oticus (3%). The disease was also mainly unilateral. This is consistent with the findings of others^{9,11}

We also reported that the treatment regime used in the management of FP were administration of steroids, vitamin C and physiotherapy.

As reported, of 67 cases with Bell's palsy, 64 responded to treatment the remaining 3, who could not be treated, reported late. Other forms of management of Bell's palsy include cortisone, verostatic agents and haemorrhagic

substances. Again, Billue, suggested the administration acyclovir with prednisone for a complete facial functioning following Bell's palsy. New evidence implicates reactivated herpes simple virus (HSV) as the aetiologic agent in greater than 70% of cases diagnosed as Bell's palsy. Therefore, careful diagnosis of the disorder with modern techniques such as ENG and electromyography are necessary.

We also noted that all the 10 cases of **FP** caused by middle ear infection recovered fully after treatment of bacterial infections of the middle ear. Therefore, it is important to encourage patients with middle ear infections to report for treatment so as to avoid complications, this particularly so in rural Africa where such infections are taken for granted.

As reported, 2 of the 4 cases with neoplasms recovered due mainly to

Table 4.

Monthly pattern of facial paralysis													
Disease (cause)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bell's palsy	16	8	3	2	0	1	2	0	6	9	10	11	67
Facial injury	1	-	1	-	-	-	-	-	-	-	-	2	2
Herpes zoster													
Oticus	1	-	2	-	-	-	-	-	-	-	-	-	3
Middle ear													
Infection	-	-	1	-	-	-	2	3	-	2	-	1	10
Middle ear													
Neoplasms	-	-	1	-	1	-	1	-	-	-	1	4	
All ages													86

the fact they reported for treatment very early. All the 3 cases with herpes zoster oticus (Ramsay Hunt Syndrome) who also had complications for HIV did not respond to treatment and died later. As we know, in general, the prognosis for herpes zoster is poorer than Bell's palsy. We could not do surgical decompression of the nerves in these patients since we could not perform conductivity tests to indicate impending degeneration of the 7th nerve. All the 2 cases whose **FP** was due to facial injury could not be managed surgically.

Conclusion

FP is a severe disability that often produces major ocular disorders, cosmetic deformities and in many cases functional incapacity for something as characteristic of human beings as facial expression. For this reason, it is necessary to correct this defect as completely as possible to produce the best physiological result. Out of the 86 cases of **FP** studied, 76 (88%) responded to full management. Apparently these were cases which were reported early. Thus, in developing countries such as Ghana where facilities for advanced producers like surgical decompression, use of gold weights for the eyelid and a temporal muscle flap for the mouth are not available, simple procedures can be used to manage facial nerve disorders, provided the disease is reported early. Some of these management procedures include, the use of steroids and vitamin C. We noted that the 2 cases presenting with temporal bone fractures could not survive. Perhaps this could have been possible with direct repair of the 7th nerve¹². Our data suggests an inverse relationship of **FP** with age i.e. **FP** is common among younger individuals with those within the age range of 6-45 years accounting for 85% of the total number of patients seen. We do not have a direct explanation for this but we can make some speculation. Since the young are physically more active than the elderly, the preponderance of **FP** in the young may be due to physical stress. According to Kuga¹³, 76.9% of patients with **FP** felt that they are physically fatigued.

The male to female ratio observed in our data is 35.65 suggesting the preponderance of female **FP**. This is similar to the findings in Spain.

Seasonal differences were also noted with fewer cases occurring in wet season. Seasonal incidence of **FP** has also been observed in Spain with fewer cases occurring in the summer.

Instructions for facial exercises, massage and muscle relaxation in addition to other rehabilitation procedures can reduce the production of pathological synkinesia.

Finally the use of botulinum-A-toxin is also recommended for the reduction of the effects of misdirected re-innovation.

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