



## **The Study of Facial Nerve Palsy Cause and Managements**

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### **Abstract**

**Background-** Facial Nerve Paralysis is a common clinical condition encountered by otorhinolaryngologist. Much of the nerve's susceptibility to paralysis can be attributed to its anatomical factors.

**Methods-** 50 cases with facial paralysis due to various causes were selected for the study. In each of these cases, a detailed clinical history was elicited and physical examination was carried out as per the proforma of the study. Investigations like routine blood, urine examination, x-ray studies were done in the hospital. In some relevant cases, further investigations like, CT-scan and other specific tests were done depending on individual basis.

**Results-** In our study 29(58%) patients were having idiopathic facial palsy, where exact cause of facial palsy was not known. 10(20%) patients were having palsy due to chronic suppurative otitis media and 12% of patients were having temporal bone trauma. 4% patients were having tumours and 6% had history of surgery.

**Conclusion-** The most common cause of facial palsy was idiopathic followed by chronic suppurative otitis media. Management involves both medical and surgical treatment.

**Keywords-** Facial Palsy, Chronic Suppurative Otitis Media, Temporal Bone Trauma.

### **Introduction**

Facial Nerve Paralysis is a common clinical condition encountered by otorhinolaryngologist. Much of the nerve's susceptibility to paralysis can be attributed to its anatomical factors.

Patients who suffer from facial paralysis experience not only functional consequences, but also the psychological impact of a change in self image and impaired communication ability<sup>1</sup>.

Causes of Facial Nerve paralysis are numerous which can be congenital, trauma, neurological, infection, metabolic, neoplastic, toxic, autoimmune, iatrogenic and idiopathic. More than 40 different causes of facial paralysis are known, classified as idiopathic, traumatic, infections, neoplastic and metabolic. Of the various causes, 75% are usually due to Bells palsy or secondary to trauma<sup>2</sup>. Management of facial nerve dysfunction is individualized and may include observation, administration of pharmacological agents, surgical interventions, physical therapy and psychological counselling<sup>3</sup>. Surgical Management of facial nerve disorders, continues to be as controversial as it was in the days of Cawthorne and Ketter<sup>4</sup>. Hence the degree of recovery also varies as per the modality of treatment used.

Materials and methods

50 cases with facial paralysis due to various causes were selected for the study. In each of these cases, a detailed clinical history was elicited and physical examination was carried out as per the proforma of the study. Investigations like routine blood, urine examination, x-ray studies were done in the hospital. In some relevant cases, further investigations like, CT-scan and other specific tests were done depending on individual basis. After investigation the patient were treated medically or surgically as indicated. After informing the patient and obtaining prior written consent, the patient was subjected to surgery as and when indicated, and conforming to well recognized and established modalities of treatment. Post treatment the assessment of deformity and degree of improvement were assessed. Whatever the modality of treatment, the patients were followed up for a minimum period of three months when the improvement was again assessed.

**Inclusion criteria**

50 patients presenting with LMN type of facial paralysis of both sexes and all age groups were included in this study.

**Exclusion criteria**

1. Patients presenting with LMN facial palsy associated with congenital syndromes.
2. LMN facial palsy associated with hypertension and diabetes mellitus.
3. Patients presenting with bilateral facial palsies were excluded from study.

**Results**

Table 1: Etiological Factors for Facial Palsy

Etiology	No. of patients	Percentage
Idiopathic	29	58.00
CSOM	10	20.00
Temporal bone fracture	6	12.0
Tumors	2	4.00

Iatrogenic	3	6.00
Total	50	100.00

In our study 29(58%) patients were having idiopathic facial palsy, where exact cause of facial palsy was not known. 10(20%) patients were having palsy due to chronic suppurative otitis media and 12% of patients were having temporal bone trauma. 4% patients were having tumours and 6% had history of surgery.

Table 2: Effect of duration with recovery of facial nerve palsy

	Less than 48 hours	More than 48 hours
No. of patients came	32	18
No. of patients recovered	28(87.5%)	13(72.22%)

In our study, 28(87.5%) patients out of 32 were fully recovered at the end of 3 months as they presented within 48 hrs of development of facial nerve palsy. While 13(72.22%) patients out of 18 who presented after 48 hrs were having partial recovery. So patients who visited earlier, were treated earlier and better results were obtained.

**Discussion**

Facial nerve, originates from the pons, runs a long intratemporal course and exits through stylomastoid foramen to supply different muscles of facial expression. This long intra-osseous part of the nerve makes it vulnerable to different types of injuries ranging from local oedema to entrapment of the nerve in the bony canal or even impingement of the nerve by bony spicule after fracture of temporal bone.<sup>5</sup>

The most common aetiology for facial palsy was found to be idiopathic (58%) followed by chronic suppurative otitis media (20%).

In Mark May's study, idiopathic constituted about 55% while second was trauma (17%).<sup>6</sup>Cholesteatoma is having erosive properties and compression along with osteitis.<sup>7</sup>HRCT temporal bone was advised for diagnosis.

The treatment was mainly surgically eradication of the disease as early as possible along with antibiotics support. All patients having temporal bone fractures, had road traffic accident followed by facial palsy. Temporal bone fracture was confirmed by CT Temporal bone. Out of 6 patients of post traumatic facial nerve palsy, 4 were treated by facial nerve decompression. 3 patients fully recovered and 1 patients were having partial recovery.

Surgery was another cause for facial nerve palsy. In our study 2(4%) patients developed palsy following canal wall down mastoidectomy and 1(2%) following parotid surgery. All were given medical treatment. 2(66.67%) recovered completely. 1(33.33%) patient did not recover was offered facial nerve decompression. However, all of them recovered. Cautious drilling and meticulous dissection is advocated.

### **Conclusion**

The most common cause of facial palsy was idiopathic followed by chronic suppurative otitis media. Management involves both medical and surgical treatment. Surgery was another mode of treatment having distinct role in chronic suppurative otitis media and temporal bone trauma.

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