Neurinomas of the Facial Nerve
Report of a Case*

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Neurinomas of the facial nerve in the petrous bone are rare. Since 1930, there have been only 38 cases reported.1-10,12-17,19-29 The nomenclature has included neurinoma, neurofibroma, neurilemoma and Schwannoma. Most were characterized by progressive facial paralysis, variable disturbances of taste, obstruction of the external auditory meatus, normal or slightly impaired hearing, and secondary middle ear infection.

Case Report

This 7-year-old boy was first seen on May 19, 1939, complaining of weakness of the right side of the face. Soon after an attack of parotitis in March, 1938, he had noticed excessive lacrimation in the right eye. Late in 1938 he had been referred to an ophthalmologist who could not find any local ocular condition to account for the epiphora. Early in 1939 his parents noticed that the corner of his mouth was being pulled over to the left.

Examination. There was an incomplete right facial palsy and a mild degree of right-sided middle ear deafness. He was a little unsteady when he tried to stand on his right foot with his eyes shut. There was no nystagmus.

Skagrams of the mastoid showed that the air cells were slightly clouded on the right side suggesting a mild mastoiditis. This was regarded as a sequel to the attack of parotitis.

Course. He was supplied with a Jennings splint for constant wear and daily galvanic treatments were given to the affected muscles for 3 weeks. By early July, 1939, some improvement seemed to have occurred, but he was unsteady when standing on both feet with his eyes shut. At the end of 6 weeks of the same treatment, there was no improvement. A series of strength duration curves showed only feeble contractions in the orbicularis oculi and levator anguli oris muscles, at the longer periods of time.

Admission. On October 9, 1939, he was admitted for extensive investigation. The right side of his mouth seemed to be drooping more than before. Lumbar puncture yielded clear fluid at a normal pressure and without any abnormal constituents. Vertebral angiography was normal except for a long basilar artery. Pneumoencephalography was normal.

The tympanic membranes were normal on both sides and hearing was within normal limits for vocal tests, but an audiogram showed slight deafness of a conduc-

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close the right eye but there was no appreciable movement in the frontalis muscle.

**Differential Diagnosis of Facial Neurinomas**

Despite the simplicity of the syndrome of a progressive facial palsy with variable disturbances of taste, hearing, and balance, the early diagnosis of facial neurinomas is difficult.

Progressive facial palsy has been described by Jefferson and Smalley\(^{22}\) as occurring with intratemporal epidermoid, and by Pennybacker\(^{28}\) with cholesteatomata. Tremble and Penfield\(^{27}\) described a case due to a tumor of the greater superficial petrosal nerve. Should there be polypi in the external canal with or without an aural discharge, chronic mastoiditis may be erroneously considered until a biopsy reveals the true nature of the lesion.

Eighth nerve tumor is difficult to differentiate, especially when the growth has invaded the petrous bone and the middle fossa. When the middle fossa is extensively involved, temporal lobe epilepsy may occur and confuse the issue.

**Discussion**

This patient presented certain new and interesting features. Although the age of many of the reported cases is not stated, none seems to have been so young at the onset of symptoms. According to Schneck *et al.*\(^{24}\) the youngest was 16 years old. The time that elapsed between the first symptom and the operation, viz. about 31 months, was relatively short when compared with that in the majority of other cases. This would have been even shorter but for the misleading history of a preceding attack of parotitis which suggested a localized encephalitis or neuritis.

The failure to procure union of the severed ends of the facial nerve by approximation inside a polythene tube was disappointing. The paralysed muscles were persistently treated with galvanism to prevent atrophy. This form of treatment was continued even after the facio-hypoglossal anastomosis and until active movements began. The patient's right hypoglossal nerve soon took over its new functions and the patient was able to move the reinnervated muscles voluntarily, without moving the tongue.

From a genetic point of view, it is interesting that on the maternal side, his great-grandfather, his grandfather and a great uncle all died from brain tumors and his maternal grandmother died of cancer, site unknown. At the time of this report, nearly 4 years after the operation, the patient is well with no signs of recurrence.

**Summary**

The case history of a neurinoma of the 7th nerve in a 7-year-old boy has been reported and the relevant literature reviewed.

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**References**


