



FACIAL NERVE TUMOUR PRESENTING AS PROGRESSIVE FACIAL PALSY: A CASE REPORT

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ABSTRACT

Facial nerve tumours are rare benign neoplasms arising from Schwann cells and often present as progressive facial palsy, frequently misdiagnosed as Bell's palsy. We report a case of a 24-year-old male presenting with House-Brackmann Grade V facial palsy with imaging suggestive of a mastoid segment facial nerve lesion. HRCT revealed bony canal erosion, while MRI demonstrated an enhancing lesion. The patient underwent complete tumour excision with reconstruction using a reversed greater auricular nerve graft. Histopathology suggested a benign nerve sheath tumour. Facial nerve neuromas, although uncommon, must be considered in progressive facial palsy. Early diagnosis using HRCT and MRI, along with timely surgical intervention and nerve reconstruction, is essential for optimal functional recovery.

KEYWORDS : Facial Nerve Neuroma, House-Brackmann Grading, Cable Grafting, Facial Nerve Reconstruction

INTRODUCTION

Facial nerve neuromas are uncommon benign tumours accounting for less than 1% of intratemporal neoplasms. They arise from Schwann cells and may involve any segment of the facial nerve. Patients often present with progressive facial weakness, which can be misdiagnosed as Bell's palsy. Advances in HRCT and MRI have improved diagnosis, while microsurgical techniques have enhanced outcomes.

Case Report

A 24-year-old male presented with left-sided facial weakness for two months, preceded by earache and drooling of saliva from the left oral commissure. The patient reported difficulty with eye closure and mouth deviation. On clinical evaluation, the facial weakness was graded as House-Brackmann Grade V⁽³⁾. There was loss of the frontal skin crease, incomplete eye closure, and drooping of the left angle of the mouth. Otoscopic examination revealed a bulge on the floor of the external auditory canal (EAC) extending to the posterior wall, with intact tympanic membranes bilaterally. Tuning fork tests revealed Rinne's positive bilaterally, and Weber's test was not lateralized. Other cranial nerves were intact.

HRCT of the temporal bone showed an ill-defined soft tissue density lesion involving the left mastoid air cells, with protrusion into the bony segment of the EAC through a 4-mm posterior wall defect. An MRI of the brain was also done, which revealed an ill-defined lesion involving the left mastoid region, suggestive of facial nerve neoplasm

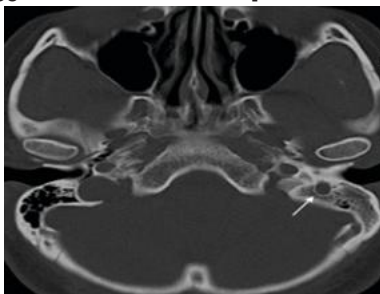


Figure 1: An axial view of high-resolution CT of the temporal bone. Arrow shows a widening of the stylomastoid foramen, likely due to enlargement of the facial nerve.

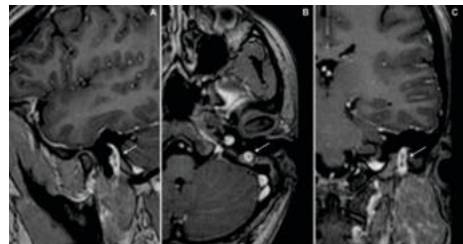


Figure 2: Gadolinium-enhanced T1-weighted image of MRI (internal acoustic meatus and brain). (A) Sagittal view, (B) axial view, and (C) coronal view. Arrow shows an enhanced left mastoid segment of the facial nerve, causing the widening of the stylomastoid foramen

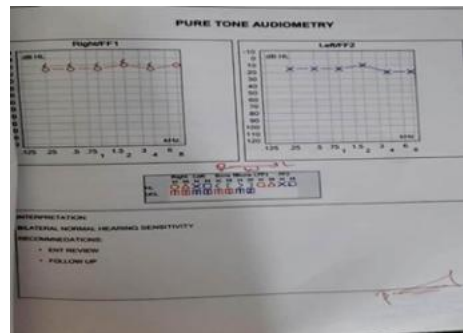


Figure 3: Pure tone audiometry was performed, which demonstrated normal bilateral hearing sensitivity.



Figure 4: Pre Operative photographs demonstrating House-Brackmann Grade V facial palsy with inability to puff cheeks.

Procedure: Under general anaesthesia, a postauricular approach with meatotomy was performed. A canal wall down mastoidectomy exposed a soft tissue lesion extending from the second genu to the proximal bifurcation of the facial nerve. The tumour was excised in toto and sent for histopathological examination. Histopathology was suggestive of Myxoma, possibly of Nerve sheath origin.

Facial Nerve Reconstruction: The greater auricular nerve (GAN) was harvested and used as a reversed cable graft for facial nerve reconstruction. The graft was sutured using 8-0 Ethilon, with meticulous tension-free placement under the microscope. The agal and conchal cartilage were used for posterior canal wall reconstruction, covered with temporalis fascia. A sternocleidomastoid muscle graft was placed over the mastoid cavity.



Figure 5: Postoperative Improvement

DISCUSSION

Facial nerve schwannomas are rare benign tumours accounting for approximately 5% of persistent facial palsy cases and most commonly involve the geniculate ganglion, though any segment of the facial nerve may be affected. Clinical presentation varies with tumour location; intratemporal lesions typically produce progressive facial weakness, whereas IAC/CPA lesions may mimic vestibular schwannoma. Extratemporal lesions may present as parotid swelling with or without facial dysfunction.

MRI with gadolinium remains the investigation of choice and typically demonstrates an enhancing fusiform lesion. Multisegment involvement producing a “beads-on-a-string” appearance and extension toward the geniculate ganglion or labyrinthine segment helps differentiate facial nerve schwannoma from vestibular schwannoma. CT temp of the oral bone may show smooth expansion of the facial canal, supporting the diagnosis.

Management depends primarily on tumour extent and facial nerve function at presentation. Surgical excision with interpositional grafting remains the preferred management in patients presenting with poor preoperative facial nerve function. Surgical excision remains the definitive treatment for symptomatic or progressive lesions but often requires nerve sacrifice.

Facial nerve reconstruction should be attempted whenever feasible. Primary end-to-end repair provides the best outcomes when possible; otherwise, interposition grafting using greater auricular or sural nerve grafts is recommended. When the proximal stump is unavailable, nerve transfer procedures such as hypoglossal or masseteric nerve transfer may be used. Functional recovery varies, and residual weakness or synkinesis may persist despite reconstruction.

CONCLUSION

Facial nerve neuromas, although rare, should be considered in patients with progressive, unexplained facial palsy. HRCI and MRI remain crucial for diagnosis. Timely surgical excision and nerve reconstruction, using primary repair or cable grafting techniques, are key to optimising functional

recovery. Future research should focus on refining reconstructive techniques and improving long-term functional outcomes.

Consent: Written informed consent was obtained from the patient for publication of clinical details and images

Conflict of Interest: The authors declare no conflict of interest.

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