Case Report

Retro-tympanic pulsatile mass originating from dumb-bell jugular foramen schwannoma

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Summary

Background. Jugular foramen (JF) tumours are uncommon. Histopathologically, paraganglioma, schwannoma and meningioma occurring most commonly in this location. JF schwannoma with extension to the retro-tympanic area has been described only once.

Methods. 20-year-old man presented with headache, blurred vision, vomiting and diplopia.

Findings. A left pulsatile retro-tympanic mass was seen at otoscopy. A jugular foramen tumour was found on CT and MR images. The intracranial portion of the tumour later diagnosed as schwannoma was removed. Control ENT examination confirmed that the residual retro-tympanic mass was no-longer pulsatile.

Conclusions. Jugular foramen schwannomas may also extend into the retro-tympanic area.

Keywords: Jugular foramen; pulsatile mass; retro-tympanic; schwannoma.

Introduction

Jugular foramen (JF) tumours are uncommon. Histopathologically, paraganglioma, schwannoma and meningioma are the most commonly seen masses at this location [3, 7]. JF schwannomas constitute 2–4% of all intracranial schwannomas. The tumours usually originate from lower cranial nerves, but acoustic schwannomas are also known to extend down to the JF [4–6, 8, 10, 11]. We describe a patient with a JF schwannoma with both retro-tympanic and extracranial extension.

Clinical details

A 20-year-old young man presented with progressive headache, blurred vision, vomiting and diplopia for 20 days. He also experienced slowly decreased hearing in the left ear over the previous 9 months. On examination, he had truncal ataxia, left shoulder drop, bilateral papilloedema and left VI nerve paresis. Magnetic resonance (MR) scan demonstrated a cystic dumb-bell shaped JF tumour. The solid extracranial portion descended down to the C2–3 level whereas the intracranial portion that extended up to the VII–VIII nerve level was predominantly cystic. The solid intracranial portion was mainly around the orifice of the jugular foramen. The solid parts enhanced homogenously with contrast. The images were suggestive of either a schwannoma or glomus tumour. Lack of bony destruction on CT and lack of signal void vessel images on MR as well as on MR-angiography largely excluded the possibility of a glomus tumour (Fig. 1a–d). Otoscopy revealed a pulsatile vascular retro-tympanic mass on the left (Fig. 2). Left sensori-neural hearing loss was documented with an audiogram. The ipsilateral and contralateral left middle ear reflexes appeared to have disappeared. These results suggested that the tumour might have originated from the acoustic nerve.
However, axial T2-weighted MR scan showed a normal size internal acoustic canal on both sides, and this appearance strengthened the idea that the tumour which extended into the middle ear cavity originated from the left jugular foramen. He underwent surgery through a left retrosigmoid approach and the rubbery, pink and encapsulated intracranial portion of the tumour was removed except for the retro-tympanic part. Facial, vestibulo-cochlear and glossopharyngeal nerves were preserved intraoperatively. In the early postoperative period the patient had a slight left facial paresis and a temporary difficulty swallowing fluids which subsided in 4 weeks. Post-operative MR scan confirmed total removal of the intracranial tumour (Fig. 3). Histopathological diagnosis was schwannoma (Fig. 4). Control ENT examination suggested that the previously documented retrotympanic mass retracted and that was no longer pulsatile. He was discharged with a 90/90 Karnofsky