Case Report

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Interesting Case of an Atypical Aural Polyp

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Abstract

Objective: The purpose of this study is to present a plethora of variations in the presentation of glomusjugulare and a review of current understanding of glomustumour. *Method:* A clinical case has been used to demonstrate the history and physical examination in diagnosing the various conditions which can present as a bleeding aural polyp. *Results:* A glomus tumour can present as an aural polyp mimicking squamosal otitis media. Great degree of clinical suspicion and awareness is needed in the diagnosis and management of this condition.

Keywords: Aural Polyp; Chronicsuppurative Otitis Media; Middle Ear Mass; Glomusjugulare.

Introduction

Aural polyp can be a most common presenting feature of CSOM of both mucosal and squamosal type. In squamosal type it is known to cause erosion of vital structures like the facial nerve, inner ear and intra-cranial components developing in response to long standing inflammatory process which results in proliferation of granulation tissue with chronic inflammatory cells. It is usually solitary, polypoidal with reddish surface and often friable. Whereas in mucosal type it is pale, pinkish, non-friable, painless mass.

There is a significant association between cholesteatoma and aural polyp arising from attic or postero superior marginal tympanic defects. The incidence of cholesteatoma associated with aural polyp varies from 25 percent to 45 percent (Veitch et al., 1988; Milroy et al., 1989; Rhys Williams et al., 1989; Gliclick et al., 1993). Other causes that may lead to aural polyp are granulomatous diseases like tuberculosis, syphilis, fungal and protozoal infection.

Conditions that may present as an aural polyp through a tympanic membrane perforation are an enlarging glomusjugulare tumour, middle ear adenoma and facial nerveneurinoma (okabe et al., 1992).

Case History

A 48 year old female patient presented with right ear discharge and reduced hearing since 1 year. She also complained of pain and fullness over the right ear since 1 month. Ear discharge was mucoid initially then became purulent, foul smelling and occasionally blood tinged since 2 months. Pain was gradual in onset diffuse dull aching over mastoid region.

There was no history of ringing sensation, giddiness/vertigo or nystagmus. She did not give any history of lower cranial nerve involvement like facial weakness, hoarseness of voice.

Endocrinal symptoms were absent. She took treatment from a local doctorwith no relief and later was referred to our centre. On examination we found out a painless non pulsatile pale pink mass with mucoid discharge in the right earwhich did not bleed

on touch and could be probed all around, tympanic Membrane could not be visualised Tuning fork tests showed Right sided moderate degree conductive hearing loss.

No abnormality was seen in Left ear clinically.

There was no nystagmus. On siegalization no blanching was seen over the mass and no signs of lower cranial nerve involvement.

Nose and Throat were clinically normal.

Routine haematological investigations were normal.

On Pure tone audiometry, right side showed moderate degree conductive hearing loss of 45 dB

X-ray mastoid schullers view showed bilaterally sclerosed mastoid.

Multi detector computed tomography **(**MDCT) done at another centre suggested Right Oto-Mastoiditis with Aural polyp

Suspecting a polyp Biopsy was done under local anaesthesia. However it was associated with moderate amount of bleeding, giving the first signs of possibility of a vascular mass.

24 hr urine VMA level was in the normal range (3-4 mg/day) However HPR report showed features suggestive of cholesteatoma rather than a paraganglioma.

High resolution computed tomography was done which showed a minimally enhancing soft tissue lesion measuring 1.4cm X .5 cm in right ear canal. Erosion of anterior wall of bony canal was noted measuring 5.0 mm. Opacification of middle air space was noted. Final impression was Right Otomastoiditis and Aural polyp.

Surgical excision of mass was planned.

Patient was taken under GA with oral intubation.

Postauralincision was taken.

Periosteum elevated

Meatotomy was done and pale greyish mass was visualised in EAC. Osteomeatal Flap was elevated. Posterior Bony Meatal wall was intact except posterosuperior and attic regions. Mass was seen completely occupying the middle ear and obliterating tympanic cavity. Mastoid was opened.

Sclerotic bone was encountered however no evidence of cholesteatoma, granulations tissue was seen. We delineated the extent of mass in all directionsby curetting and dissection (Figure 1).

Soft tissue mass was dissected away from aditus ad antrum, attic & promontory with side knife and cotton balls.Tumour was excised in toto. (Figure 2).

Malleus and Incus were absent.

Graft was placed and myringostapediopexy repair was done.

Bleeding was controlled with gelfoam and medicated ribbon guaze.

Hence a mass of 1.2 cm X 0.5 cm was removed intoto successfully (Figure 3). Blood loss was about 100 ml. Final Histopathological report showed capillaries blending with the glomus cells, suggesting a diagnosis of glomus tumour (Figure 4). Post-operative follow-up of the patient at 1 year has shown no recurrence.

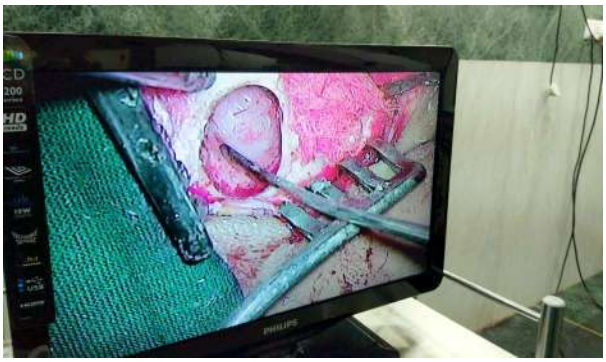

Fig. 1: Soft tissue mass being dissected

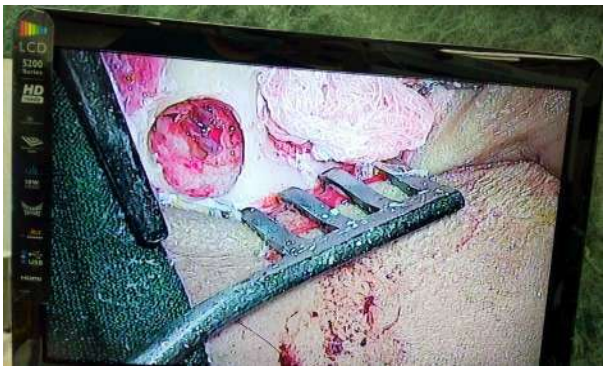

Fig. 2: Tumour excised in toto

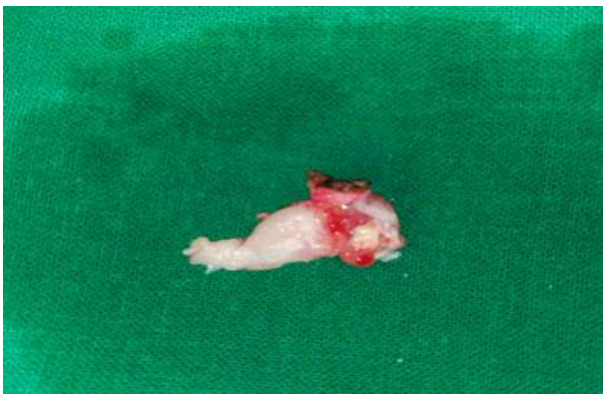

Fig. 3: Mass of 1.2cm *0.5cm removed in toto

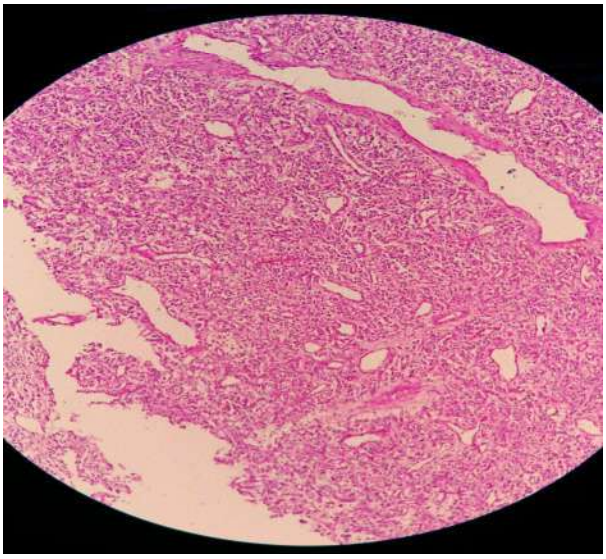

Fig. 4: Hpr shows capillaries blending with glomus cells

Discussion

The description and term glomusjugularis is credited to Guild, who, in 1941 described existence of glomus body in the ear. Rosenwasser in 1945, was the first to attempt radical removal of a glomus-tumour [8].

Glomus tumour term has been used to refer to paraganglioma of head and neck region since a long time. They are a group of cells associated with vascular and neuronal adventitia found throughout the body. They originate from neural crest cells and are related to autonomic nervous system. When they arise near adventitia of jugular bulb they are termed glomus jugulare, along course of Jacobson nerve and involving promontory they are termed glomustympanicum along the vagus nerve, glomusvagale. They may also be termed as paraganglioma along with the region they occur, for example tympanojugular-paraganglioma [1-4].

Glomus tumours are benign, hyper vascular-tumours with a prolonged insidious growth. They have an estimated incidence of one per 1.3 million population with 1-5% of cases turning out to be malignant. Glomus tumours of ear happen to be second most common neurotological tumour after acoustic neuromas [1-3].

They occur four to six times more commonly in females than in males, with a peak age of of presentation after 4^{th} and 5^{th} decade of life. A left-sided preponderance is also reported [2-4]. They may be sporadic or familial. Familial cases appear at a younger age group [3].

Around 25%–35% of paragangliomas may be associated with recognized genetic defects, most of which are due to hereditary transmission.

Most common symptoms are conductive hearing loss, pulsatile tinnitus, otalgia, lower cranial nerve palsies [3-7]. Very rarely it may extend into ear canal and present as a polyp and can be associated with otorrhoea due to secondary infections as in our case [3]. It may be associated with Aquino's sign and Brown's sign. On examination, the hallmark of a jugulotympanicglomus tumour is a reddish-blue mass seen posterosuperiorly behind the tympanic membrane and is called the rising sun sign. None of these signs were elicited in our case.

Fisch classification and glasscock and Jackson classification are popular available classifications. According to glasscock-Jackson classification our case was type 4 tumour i.e. tumour spreading into external auditory canal [1,9].

Histologically the glomus tumour may consist of type I or chief cells with cytoplasmic granules containing catecholamine's and type II or Schwann like satellite cells. They are arranged in classic zellballen (cellball) configuration consisting of chief cells surrounded by fibrovascular stroma with thin walled capillaries and sustentacular cells. Sometimes the mass may be covered with squamous epithelium giving false impression of cholesteatomaas it happened in our case [3,10].

Secretion of catecholamine's (functional tumours) leading to endocrinal symptoms may occur in 1%-3% of cases.

HRCT is very valuable in diagnosis showing the location, extent or bony erosions of jugulotympanicglomustumours. MRI is better for delineating the tumor edges. However both may not reveal the nature of mass. Angiography can help in knowing the feeding vessel of the tumour [3,10]. Due to financial constraints MRI and angiography could not be done in this patient.

Several middle ear pathologies can extend into external auditory canal e.g., cholesteatomas, glomus tumours, meningioma, squamous cell carcinoma, tuberculosis, mucosal adenoma, encephalocoele etc. [10]. They should be included in the differential diagnosis of polyps in the EAC. Although these lesions have very rare occurrence and many surgeons believe them to be anecdotal. Our case study reveals an aural polyp with otitis media like presenting features turning out to be a glomus tumour in final histopathological diagnosis. This is alarming as an unsuspecting clinician may misdiagnose the case.

HRCT is very commonly used in the workup of the patients but it gives very few clues about the nature of mass. MRI is not routinely used in otitis media patients although it may help in diagnosis glomus tumour more effectively. Clinical presentation and examination findings are main pointers in the diagnosis of cholesteaotomatous otitis media. They may be commonly associated with polyp growth. However the results of our present study reveals that a glomus tumour may masquerade as an aural polyp with otitis media. High degree of clinical suspicion and awareness is needed for appropriate management of such cases [8-10].

Conclusion

Aural polyp is one of the common presentation in otologic disease. Whenever we come across an atypical aural polpy, all the various conditions should be considered with high degree of suspicion so as not to miss the diagnosis.

Tympanic jugular glomus tumours can present as an aural polyp with otitis media. HRCT may not be able to generate enough evidence in diagnosing them, and biopsy can be hazardous. Great degree of clinical suspicion and awareness is needed for appropriate management and diagnosis of these cases.

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