

Carcinoma Middle Ear with Facial Nerve Palsy and Temporal Lobe Abscess

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ABSTRACT

Carcinoma of middle ear is very rare condition being one in 20,000 new patients. The commonest primary middle ear malignancy is usually squamous cell carcinoma. A 36-year-male presented with right sided severe earache with blood stained aural discharge, associated with headache and deviation of angle of the mouth to the opposite side. He had ear discharge since childhood. On examination he had bleeding polypoidal mass in the right external auditory canal & tympanic membrane was not visualized. He also had features of facial nerve palsy. CT scan of brain finding was chronic right mastoiditis & right temporal lobe abscess causing significant mass effect. The patient was undergone Burr-hole operation. After 2 weeks right radical mastoidectomy was done. There was huge granulation tissue involving middle ear, attic & mastoid antrum and ossicles was eroded. Histopathology report revealed infiltrating squamous cell carcinoma grade-I. The patient was sent for radiotherapy & asked for follow up monthly. In long standing chronic suppurative otitis media with blood stained discharge & facial nerve palsy, middle ear malignancy should be suspected.

Key words: Carcinoma middle ear, facial nerve palsy, temporal lobe abscess.

Introduction

Carcinoma Middle ear is very rare condition being one in 20,000 new patients¹. Long standing middle ear suppuration thought to predispose it. May some time develops in a radical mastoidectomy cavity. It can go any direction, outwards into meatus and thence into parotid or into post auricular region, upwards into middle cranial fossa, backwards into mastoid, downwards into jugular fossa, inwards into inner ear and petro-sphenoid angle, may invade the facial nerve in the tympanic course, forwards in tissue planes around the Eustachian tube to the post nasal space. Lymphatic metastases are late and usually in retropharyngeal nodes- Rouviere's node over the transverse process of the atlas.

Case report

A 36-year-old male businessman by occupation came to our hospital with severe earache & headache in right side for 2 weeks, facial palsy of right side for 2 weeks, Right ear discharge since childhood. But for the last 4 weeks it was blood stained.

Otосcopy reveals blood mixed discharge and polypoidal mass full in the right external auditory canal which foul smelled and tympanic membrane was not visualized. The patient was anxious looking and drowsy.

Tuning fork test shows Rinne negative in right ear and Weber lateralized to right ear. Facial nerve test reveals wrinkling of forehead absent on right side, angle of the mouth deviated to opposite side and unable to close right eye.

Spiral CT scan of brain shows chronic right mastoiditis and right sided temporal lobe brain abscess.

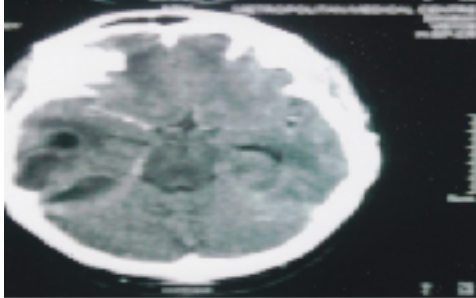


Figure 1: CT scan of brain showing right temporal lobe abscess.

Medical treatment with high dose intravenous antibiotics ceftriaxone, metronidazole, analgesic for pain and steroids was given.

Neurosurgical treatment Barr-hole aspiration of temporal lobe abscess was done on 21.06.2011 and 17 ml of pus came out. Stitches were removed after 14 days. After then radical mastoidectomy was done. Mastoid cavity opened by drilling and extensive cholesteatoma found, it was removed. Then middle ear cavity opened and it was full of granulation tissue, which was removed.

Ossicles are eroded. Mastoid air cells were necrosed and fragile, meticulous removal was done. Wide meatotomy done, pack given, wound closed in layers. Mastoid bandage applied. Post operative recovery was uneventful. Tissue was sent for histopathology. It showed infiltrating squamous cell carcinoma grade I. The patient was referred to oncologist for further treatment.

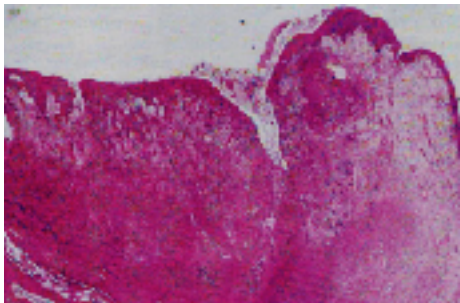


Figure 2: Photograph of histopathology



Figure 3: Post-operative photo of the patient.



Figure 4: Post operative CT scan with healed abscess.



Figure 5: Photograph of the patient as on October 17, 2011

Discussion

Squamous cell carcinoma is the commonest middle ear malignancy whereas adenocarcinoma is rare. More than one third of middle ear squamous cell carcinomas (SCC) are preceded by chronic suppurative otitis media (CSOM). Carcinoma following chronic suppurative otitis media is reported to be cases per 4000 of CSOM¹. SCC accounts for 60-80% of the carcinoma of the temporal bone². The co-existence of CSOM with or without cholesteatoma alone with malignancy poses several diagnostic and therapeutic challenges for the clinician. Most commonly it occurs in sixth

decade but our patient is only 36 years. Different study shows more than half of the patients have long standing middle ear infection. Kenyon et al confirmed that a history of chronic suppuration with or without cholesteatoma predispose the patient to tumor development and that, in the presence of continuing otorrhoea, patient were not protected by mastoid surgery³. Blood stained otorrhoea is usually present which the patient had. Males and females are equally affected. Granulation tissue and polyp formation which readily bleed on touch should always arouse suspicion of malignancy. Biopsy will always distinguish it from inflammatory condition or from glomus tumour. Biopsy may be done through tympanotomy. Routine cytology of discharge will often detect presence malignant cells. Deafness is conductive type, until the labyrinth is involved in later stages. Our patient had conductive deafness and lower motor neuron type of facial nerve palsy. Not uncommon and usually late but the patient develop early. Other cranial nerve palsies are late signs and preclude any chances of cure. There are several routes by which sepsis may spread to the cranial cavity from an infected ear and indeed, considering dura to the infective process, in many cases it is surprising that intracranial complications are not so common. These routes are most commonly by direct erosion of osteitic bone by inflammatory process or via infective thrombophlebitis of emissary veins traversing bone and also dura. In intracranial abscess the presentation is often much more insidious with low grade headache, mild pyrexia and in the later stages drowsiness, lethargy, and weakness. The prominent symptoms are headache and vomiting. The frequency of and mortality from brain abscess has remarked in recent years, with mortality of 6-14% quoted in one series⁴.

Accurate assessment of the extent of the tumour is by high resolution CT scan⁵, this is important in the subsequent staging and management of the tumour. Additional valuable information can be obtained from MRI were there is suspicion of vascular involvement.

Treatment modalities include primary surgery with a post surgical radiation in most patients; this is the preferred option^{6,7,8}. Radiotherapy alone is

considered inadequate treatment. The standard treatment for early tumour is radical mastoidectomy with postoperative radiotherapy^{8,9}.

These tumors retain a poor prognosis despite the development of increasingly radical surgical procedures and the advantages of radiotherapy. About 25% or less can expect 5 years survival after treatment at specialized centers⁸. No cure can be looked for when cranial nerve palsies are present or CT scan shows the diseases beyond the confines of the temporal bone. Death results from involvement of brain and meninges by direct spread, or inanition due to intractable pain.

Conclusion

In-longstanding CSOM a sudden onset of sinister symptoms like facial nerve palsy, blood stained discharge from middle ear and severe earache should alert the development of malignancy. Because Middle ear carcinoma has a poor prognosis, it is important to detect lesion early.

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