Post-traumatic Ossicular Dislocation

Case Studies [1] | September 09, 2014
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Case History: 20-year-old male with history of head injury followed by reduced hearing in the left ear.

Case History: A 20-year-old male patient presented with history of head injury three months prior followed by reduced hearing in the left ear. He had bleeding from the left ear at the time of injury but no fracture of the temporal bone. Pure tone audiometry showed conductive deafness with hearing loss of 40 decibels.

Figure 1.

Figure 2.
Figure 3.
Finding: High-resolution computed tomography (HRCT) of the temporal bone showed dislocation at the ossicular joint between malleus and incus. The other ossicular joint between incus and stapes showed normal alignment. No soft tissue or fluid collection was seen in the middle ear cavity. Tympanic membrane was intact.

Diagnosis: Post-traumatic ossicular dislocation.

Discussion: Trauma of the ossicular chain is a frequent complication of temporal bone injury. Skull trauma from blows to the temporal, parietal or occipital regions (with or without fracture of the temporal bone) is the main cause of ossicular injury; other modes of injury are rare. Ossicular injury usually occurs as a dislocation. There are five types of dislocation: incudostapedial joint separation, incudomalleolar joint separation, dislocation of the incus, dislocation of the malleoincudal complex and stapediovestibular dislocation. Fracture of the malleus, incus, or stapes is uncommon.\(^1\) The clinical diagnosis of a temporal bone fracture is based on head trauma with otorrhea, hemotympanum and facial nerve palsy.\(^2\)

High-resolution computed tomography is the method of choice for evaluation of ossicular trauma.\(^1\) Conductive hearing loss may be caused by middle ear hemorrhage or ossicular disruption. In most patients, middle ear bleeding and attendant hearing loss resolves in weeks. In a few patients, ossicular injury is the cause of unresolved hearing loss and may require surgical intervention. Reconstruction of the ossicular chain is considered if a patient has a conductive hearing loss of more than 30 dB (mild to moderate) that persists six months after trauma.\(^2\)

Hearing results after immediate or delayed ossiculoplasty are apparently satisfactory, although late cases are assumed to be associated with adhesion or fibrosis.\(^3\)

References

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