A Case of Traumatic Perforation of the Tympanic Membrane Caused by Hot Water

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Traumatic perforation of the tympanic membrane caused by hot water is a rare entity. We report herein on a 65-year-old male who accidentally poured hot water over his head, and suffered from a second-degree burn on his left face, chest, and upper arm. He recognized left hearing loss and otorrhea, and was found in an ENT clinic to have severe stenosis of the external auditory canal (EAC). He was referred to our department three weeks after the injury. On examinations, swelling of the EAC, total perforations of the eardrum and mixed hearing loss were demonstrated in his left ear. Ear wicks were applied to prevent EAC re-stenosis. Antibiotic eardrops were also used, but his otorrhea persisted for 9 months after the injury. Fourteen months after the injury, when the middle ear infection disappeared, we performed tympanoplasty. The post-operative course was uneventful. The perforation had closed and his hearing had improved 17 months after the surgery. A burn of the tympanic membrane is often accompanied by repeated bacterial infections and an extensive burn of EAC, and therefore the prognosis of a tympanoplasty is not necessarily good. Although otorrhea repeats or persists for a long period, it is recommended that we consider surgical treatment only after confirmation of the resolution of the EAC and middle ear infections.

Keywords : traumatic perforation, tympanic membrane, hot water, otorrhea, tympanoplasty

References
Findings in the left tympanic membrane.
A: On the first visit; The tympanic membrane was totally perforated with erosion and swelling in the skin of the external auditory canal.
B: Just before surgery; The perforation in the tympanic membrane was still seen with hypertrophy of the skin in the tympanic membrane and external auditory canal.
C: 17 months after surgery; The tympanic membrane perforation had closed.

Pure-tone audiometry before and after surgery.
A: Before surgery
B: 17 months after surgery