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Patulous Eustachian Tube

The following is an abbreviated adaptation of an article by Michael J. Rensink, MD from the March 2012 issue of "The Hearing Journal". Dr. Rensink is a member of ENT Associates of San Diego and has been a practicing ENT specialist for more than 35 years. Please see the full article for more details.

The patient is a healthy 60 year old woman with a plugged, hollow feeling and severe annoyance with the sound of her own voice echoing in the left ear. She reported no difficulty hearing in that ear, and denied any pain and tinnitus. Audiometric testing noted a low frequency sensorineural hearing loss in the left ear. Tympanometric studies were normal. A second tympanogram performed while the patient was performing the Valsalva maneuver (hold the nose and blow lightly) showed the peak shifted to positive pressure. Otoscopy was normal.

Differential diagnosis ruled out cerumen, infection, otosclerosis, middle ear fluid, and Meniere's syndrome. As the second set of tympanograms showed a change to positive pressure, the diagnosis was a patulous Eustachian tube on the left.

The Eustachian tube normally rests closed, opening briefly when we swallow, yawn, or perform a Valsalva maneuver. But with a patulous Eustachian tube, the walls stay apart and the tube is continuously open. The patient's voice travels up the Eustachian tube where it

takes on a booming or echo quality.

Education is the primary treatment for the patient. The patient is to avoid "popping" their ears as the Eustachian tube may continue to stretch, worsening the condition. The condition usually improves when the patient understands there is nothing seriously wrong with the ear. The problem is primarily a nuisance.

If the patient is having significant difficulty, a ventilation tube can be placed in the tympanic membrane. This may help relieve the echo of the voice as well as the plugged sensation.

The plugged sensation is coming from the patulous Eustachian tube. It seems counter intuitive for a constantly open tube to create the plugged sensation, but the Eustachian tube normally rests closed with the air pressure equal on both sides of the tympanic membrane. As we are accustomed to this condition, any variation may be sensed as a plugged ear.

A patulous Eustachian tube has been linked to hormone supplements, weight loss, overzealous use of the Valsalva maneuver, and upper respiratory infections.

Rensink, M.J.: Diagnosis: patulous Eustachian tube. "The Hearing Journal", March 2012; 65(3): 4-6.

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Terry DeGroot, M.D.

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Cerumen management in particular is key to ear and hearing health and hygiene.

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Sleep Apnea Linked to Sudden Hearing Loss

Could there be a link between previously diagnosed sleep apnea and sudden hearing loss? A recent study by Jau-Jiuan Sheu, MD, an associate professor of neurology at Taipei Medical Hospital in Taiwan matched 15,960 control patients with 3,192 patients with newly diagnosed sudden sensorineural hearing loss.

Patients with that type of hearing loss demonstrated higher rates of obesity, hyperlipidemia, diabetes, hypertension, and coronary heart disease. A total of 240 of the 19,152 patients were diagnosed with obstructive sleep apnea before the index date, with 55 in the sudden sensorineural hearing loss group and 185 in the control group.

The study didn't directly prove causality despite the fact that a higher proportion of sleep apnea was found among subjects with sudden sensorineural hearing loss. It does, however, present a potential

link to causality.

"There are a number of different reasons why these results were demonstrated in the study," said Steven Park, MD, a surgeon at Montefiore Medical Center in Bronx, NY. "Sleep apnea causes major inflammation in the bloodstream and brain, and also promotes vascular complications. People with sleep apnea also have thicker blood, so blood (is) sludgy and clots." Dr. Park goes on to say that this thicker blood can limit the flow of blood through the cochlea, leaving one prone to mini-strokes in the cochlear region.

Further research is needed in this area. Particularly because the connection was not noted among women in the study.

Coleman, M.: Sleep apnea linked to sudden hearing loss. "The Hearing Journal", March 2012: 65(4) 36.

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