

## **Pneumolabyrinth following Eustachian Tube Insufflation**

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## Letters to the Editor

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### Pneumolabyrinth following Eustachian Tube Insufflation

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Magliulo et al recently reported an interesting case of “pneumolabyrinth following Eustachian tube insufflation” in *Otolaryngology—Head and Neck Surgery*.<sup>1</sup> Pneumolabyrinth, as it has been described in the article, is a condition of vestibule and/or cochlea dysfunction due to the presence of air within the labyrinth. It is caused by a perilymphatic fistula that can be the result of temporal bone trauma, barometric pressure changes, or otologic surgery. The authors’ recommended treatment is “subtotal petrosectomy with blind sac closure of the external auditory canal and obliteration of the Eustachian tube.” This treatment strategy is an invasive approach, and it is not the most cost-effective treatment for solving the vestibular symptoms.

Although Eustachian tube insufflation is a described method to treat otitis media, the history of stapes surgery is a contraindication. Large pressure changes during this procedure almost always induce inner ear damage, and it should have been emphasized in the article as an important point to notice.

The vestibular symptoms in the patient seem to be related to massive inner ear damage, and it is not clear why petrosectomy and canal wall down procedure should be done in the patient who is deaf. The vestibular symptoms would be diminished with central compensation, and we believe that the petrosectomy does not have a dramatic effect, as pneumolabyrinth is a self-limiting symptom in such cases.

There are mixed reports of the advantages to surgical exploration versus conservative management of pneumolabyrinth, and there is not any standard practice in this case, although reported outcomes of conservative management with bed rest, antibiotics, nasal decongestant, and corticosteroids in several studies are encouraging for its use as initial treatment. Follow-up of these reports shows a complete closure of the air-bone gap with no residual dizziness and vertigo, while the air disappeared after 1 year.<sup>2,3</sup> Thus, surgical exploration should be limited, especially in progressive sensorineural hearing loss and persistent vertigo without any improvement after supportive management.

Fat and perichondrium, temporalis fascia, muscle, and tragal perichondrium bolstered with Gelfoam have been described for fistula repair, but the selected procedure in the presented case after one try for fistula repair without any supportive treatments is not the best approach. If hearing preservation is not a goal in this case, central compensation would have decreased vestibular symptoms anyway.

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### Response to Letter to the Editor of Kohui and Ghazavi

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First, we thank Kohui and Ghazavi for the observations that gave us the opportunity to clarify the treatment adopted for our patient.