

Unilateral Otitis Media with Effusion in Adults: A Challenging Disease

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Editorial

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Editorial

Otitis media with effusion (OME) is defined as the presence of fluid behind the tympanic membrane without signs of acute ear infection. This condition, generally bilateral, is so common among children to be called “occupational hazard of early childhood”, as more than 90% of children in preschool age develop at least 4 episodes of OME per year. Adenoidal hypertrophy, upper respiratory tract infections, cleft palate, and cigarette smoke are the main causes. In adult population OME is less prevalent, but it can be a not negligible cause of morbidity. Over the last few decades a number of risk factors have been identified such as malignancies, sinonasal diseases, acid reflux disease, Eustachian tube dysfunction, smoking, intensive care referral, human immunodeficiency virus infection, and autoimmune disorders. Otomicroscopy, pure tone audiometry with tympanometry, and flexible fiberoptic nasopharyngoscopy can be considered the basic assessment in order to characterize the disease before treatment prescription. Medical therapy is represented by intranasal or oral steroids, nasal decongestants, antihistamine drugs, or antibiotics, alone or in combination. Generally, ventilation tube (grommet) positioning is offered in the event of unsuccessful medical therapy.

When dealing with adults affected by persistent unilateral OME, the challenge is to depict a small subset of patients, whose persistent OME is caused by an occult lesion of the skull base. Physicians should keep in mind that unilateral middle ear effusion may be due to a “functional” obstruction of Eustachian tube, caused by

edema or inflammation of respiratory tract mucosa, or may be due to a “mechanical” obstruction of this structure, caused by direct invasion from pathologic tissue. Flexible fiberoptic nasopharyngoscopy can allow accurate inspection of the nasopharynx and nasal fossae, in order to detect congenital narrowing, acquired stenosis, or neoplastic obstruction of the Eustachian tube orifice. Instead, as it is a “surface examination” method, it cannot identify a “mechanical” obstruction along the Eustachian tube. In adults, a number of intratemporal, intracranial or infratemporal fossa lesions may cause Eustachian tube obstruction, resulting in unilateral persistent OME, such as primitive malignant (undifferentiated, adenoid cystic, mucoepidermoid carcinoma, osteosarcoma or chondrosarcoma) or metastatic tumors, benign tumors (schwannoma, meningioma, chordoma, pleomorphic adenoma), chronic inflammatory diseases, (petrous bone cholesteatoma, and cholesterol granuloma), or vascular lesions (internal carotid artery aneurysm, glomus tumors).

Lesions commonly affecting the skull base can often spread through the skull base foramina, thus causing cranial nerve impairment. Moreover, malignant epithelial neoplasms can spread via lymphatic vessels, thus resulting in metastatic adenopathies of the neck. For this reasons, careful evaluation of cranial nerves, and accurate inspection of all lymph node basins of the neck should always be part of the diagnostic work-up of patients with persistent unilateral OME. In a recent paper, Leonetti (A study of persistent unilateral middle ear effusion caused by occult skull base lesions. *Ear Nose Throat J* 2013;92:195-200) reported on a retrospective series of 79 adults affected by persistent OME secondary to occult

skull base lesion, with initial normal head and neck and nasopharyngeal examination, with the aim to emphasize the importance of imaging studies. In fact, contrast-enhanced computed tomography or nuclear magnetic resonance revealed in these patients the presence of neoplastic, inflammatory, vascular lesions of the skull base, ultimately causing OME. In conclusion, management of OME in adults may be challenging. Initial diagnostic work-up should provide otomicroscopy, pure-tone audiometry with tympanometry, nasopharyngeal flexible fiberoptic endoscopy, and a careful evaluation of cranial nerves and lymph node basins of the neck. It must be underlined that only in a small subset of patients persistent OME may be caused by an occult lesion of the

skull base. Despite this, imaging evaluation by contrast-enhanced computed tomography or nuclear magnetic resonance in these patients seems worthwhile before undergoing treatment. In fact, medications or ventilation tube placement for OME caused by an undiagnosed occult skull base lesion represent a purely symptomatic treatment. On the contrary, from a prognostic point of view, prompt detection of an occult skull base lesion is important for establishing the best etiologic treatment.

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