10-minute consultation

Tinnitus

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An elderly widower complains of ringing in his ears. He denies any associated symptoms. He takes atenolol for hypertension. Tired and anxious, he wants to know what is wrong.

What issues you should cover

Tinnitus—the sensation of noises in the ears or head not attributable to any perceivable external sound—is common. Is the tinnitus subjective? Uncommon objective tinnitus can be heard by others. The temporomandibular joint, eustachian tube, palate, and carotid artery can produce usually innocent somatosounds.

Character of sound—Ringing, hissing, or buzzing suggest inner ear or central pathology. Popping, clicking, or banging suggest problems in the external or middle ear or palatal problems. Pulsatile sounds may indicate anxiety or acute inflammatory ear conditions but also vascular causes, including tumours (glomus, carotid body), carotid stenosis, arteriovenous malformations, intracranial aneurysms, and high cardiac output states. "Voices" need psychiatric referral.

Balance—Bilateral tinnitus is usually innocuous; unilateral tinnitus may herald acoustic neuroma.

Change over time—Determine intensity and frequency of the sound so that you can gauge the progression of the tinnitus over long term follow up.

Intrusion—Not all patients suffer from their tinnitus. Intrusion raises patients' concern about serious intracranial disease, reinforcing tinnitus. Sleep, mood, and concentration deteriorate. Intrusion dictates whether and how much treatment is needed.

Otological history—Tinnitus may result from almost any ear problem, especially causes of deafness, such as audiovestibular symptoms, exposure to noise, head injury, and ear surgery.

Other history—Tinnitus may be associated with fever, cardiovascular disease (hypertension, cardiac failure), high cardiac output states (anaemia, thyrotoxicosis, pregnancy), neurological disease (multiple sclerosis, neuropathy, alcoholism), and physical immobility. It is often associated with mental stress and depression, so obtain a psychosocial history, including isolation, divorce, bereavement, redundancy, and so on. Obtain a drug history: drugs rarely cause or exacerbate tinnitus, but those that do include salicylates, aminoglycosides, quinine, loop diuretics, and ß blockers.

Reasons for referral to specialists

- Associated deafness or an abnormal ear condition
- Pulsatile tinnitus, unless associated with an acute inflammatory ear condition
- Persistent (>3 months) unilateral tinnitus
- Persistent intrusive tinnitus

Useful reading

Wareing MJ. Clinical review: tinnitus. *GP Magazine* 2 Feb 2004:41-2

Lockwood AH, Salvi RJ, Burkhard RF. Current concepts: tinnitus. *N Eng J Med* 2002;347:904-10

What you should do

- Examine his ears for meatal wax or foreign bodies and signs of middle ear disease (effusion, infection, perforation, glomus). Free-field speech tests detect deafness, and the Rinne test and Weber's test differentiate conductive and sensorineural losses. Audiometry is better for defining and documenting deafness, as most patients have measurable loss (presbycusis, noise induced deafness, otosclerosis, Meniere's disease).
- Examine his cranial nerves, especially trigeminal and facial. A history will indicate further neurological or general examinations.
- Although they are rarely cost effective, consider laboratory tests—blood count, blood glucose, and thyroid function—to investigate any general causes.
- Consider a specialist referral for imaging. In persistent unilateral tinnitus magnetic resonance imaging can exclude retrocochlear pathology. In cases of pulsatile tinnitus ultrasonography, computed tomography, magnetic resonance scanning, or even angiography can exclude vascular causes.
- Few patients show identifiable or remediable causes, so aim to reduce effects.
- Sedatives or antidepressants help secondary agitation or depression but do not eliminate tinnitus. Other treatments (antiepileptics, vasodilators, anaesthetics, hypnosis, acupuncture, and herbal remedies) remain unproved. Surgery is limited to a few remediable otological causes.
- Give explanations and reassurance with a positive emphasis. Most patients are comforted by general information (see leaflet on bmj.com) and come to accept tinnitus as a fact of their lives.
- Offer self help advice: he should minimise mental stress, avoid immobility by regular exercise, try relaxation techniques, allow background noise (an open window, a fan, radio hiss) to eliminate silence, check his diet and lifestyle habits (alcohol, caffeine, and salt consumption; smoking), and join a local support group.
- If necessary (see box) refer him for tinnitus retraining therapy, consisting of directive counselling (explaining the problem, countering negative beliefs, and ameliorating reactions) and sound therapy (hearing aids or white-noise maskers, or both, to raise the background "sound floor").

Competing interests: MJW has been an expert witness in cases where tinnitus has been relevant.

P+ *Information that can be used in a leaflet for patients, including self help information, is on bmj.com*

This is part of a series of occasional articles on common problems in primary care

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