Extracts from "Concise Clinical Evidence"

Chronic suppurative otitis media

Jose Acuin

Definition Chronic suppurative otitis media is a persistent inflammation of the middle ear or mastoid cavity. Synonyms include "chronic otitis media (without effusion)," chronic mastoiditis, and chronic tympano-mastoiditis. Chronic suppurative otitis media is characterised by recurrent or persistent ear discharge (otorrhoea) over 2-6 weeks through a perforation of the tympanic membrane. Typical findings also include thickened granular middle ear mucosa, mucosal polyps, and cholesteatoma within the middle ear. Chronic suppurative otitis media is differentiated from chronic otitis media with effusion, in which there is an intact tympanic membrane with fluid in the middle ear but no active infection. Chronic suppurative otitis media does not include chronic perforations of the eardrum, which are dry, or discharge only occasionally, and have no signs of active infection.

What are the effects of treatments in adults?

Likely to be beneficial

Topical antibiotics

Randomised controlled trials (RCTs) found limited evidence that topical quinolone antibiotics versus placebo improved otoscopic appearances. RCTs found no clear evidence of significant differences between topical antibiotics. Case studies have associated topical non-quinolone antibiotics with ototoxicity, affecting mainly vestibular function, although RCTs have found few adverse events associated with short term use.

Unknown effectiveness

Ear cleansing

We found no RCTs of ear cleansing (aural toilet) versus no treatment.

Oral and intravenous antibiotics

RCTs found insufficient evidence about the effects of oral and intravenous antibiotics versus placebo or no

treatment. One systematic review found that oral antibiotics were significantly less effective than topical antibiotics in reducing otoscopic features of chronic suppurative otitis media. We found no evidence about long term treatment.

Topical antiseptics

We found no RCTs comparing topical antiseptics versus placebo or no treatment. One RCT compared topical antiseptics plus ear cleansing under microscopic control versus topical antibiotics alone versus oral antibiotics. It found no significant difference in the rate of persistent activity on otoscopy. However, the RCT was too small to exclude a clinically important difference.

Topical steroids

We found no RCTs comparing topical steroids versus placebo or no treatment.

Tympanoplasty with or without mastoidectomy

We found no RCTs comparing tympanoplasty with or without mastoidectomy versus no surgery for chronic suppurative otitis media without cholesteatoma.

What are the effects of treatments in children?

Unknown effectiveness

Ear cleansing

One systematic review found no significant difference in persistent otorrhoea or tympanic perforations with a simple form of ear cleansing versus no ear cleansing.

Oral and intravenous antibiotics

RCTs found insufficient evidence about the effects of systemic antibiotics in children with chronic suppurative otitis media.

Topical antibiotics

We found no RCTs comparing topical antibiotics versus placebo. One small and brief RCT found no significant difference in the proportion of ears with unchanged otorrhoea on otoscopy with a topical antibiotic plus steroid mixture plus ear cleansing versus ear cleansing alone. However, the confidence

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De La Salle
University, Cavite,
Philippines
Jose Acuin
consultant

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interval was wide and a clinically important difference cannot be excluded.

Topical antiseptics

RCTs found no significant reduction in otorrhoea with topical antiseptics versus placebo after two weeks. One RCT found no significant difference in otorrhoea with topical antiseptics versus topical antibiotic plus steroid. However, the RCTs were too small to exclude a clinically important effect.

Topical steroids

We found no RCTs comparing topical steroids versus placebo.

Tympanoplasty with or without mastoidectomy

We found no RCTs comparing tympanoplasty with or without mastoidectomy versus no surgery for chronic suppurative otitis media without cholesteatoma.

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Commentary: Interpreting the evidence

G G Browning

University of
Glasgow, Glasgow
G14 3PQ
G G Browning
professor in
otorhinolaryngology

How should this literature evaluation affect our management of individuals with active (suppurative) chronic otitis media? The lack of a randomised controlled trial to support the effectiveness of cleaning the ear of pus and debris should not negate the requirement to do this—drainage of pus, wherever it is, hastens resolution. In specialist hands cleaning is best done with suction and in non-specialist hands with buds or even syringing.

Aural toilet will also allow better examination of the tympanic membrane and attic, an essential requirement in patients with persistent otorrhoea to exclude a cholesteatoma, for which medication is inappropriate. Patients may need to be referred to a more experienced otoscopist who has access to suction and magnification.

In children a repeatedly discharging ear is most likely due to recurrent episodes of acute otitis media, and the tympanic membrane may heal between episodes. The associated hearing impairment is usually minor and the long term aim of management must be to prevent recurrent episodes that could lead to a permanent perforation and erosion of the ossicles. This can result in a more severe hearing impairment. Insufficient evidence exists to support the use of systemic antibiotics in preventing recurrent acute episodes,¹ and

antibiotics are of unknown effectiveness in active suppurative chronic otitis media. Treatment will therefore rely on aural toilet and topical antibiotics with steroids that are “likely to be beneficial in adults.”

Adults with active suppurative chronic otitis media most commonly present with a hearing impairment and an intermittently discharging ear. Surgery or a hearing aid are the options available to alleviate the hearing impairment. Surgery, though not proved in randomised controlled trials, is, from the evidence of case series, likely to be management in the long term. It has an otoscopic success rate of at least 80% in skilled hands. If this is not available or declined, aural toilet and topical antibiotics for episodes of discharge are a reasonable alternative. Antibiotics given for no more than two weeks will have minimal if any adverse effects, even if an aminoglycoside is chosen. In theory aminoglycosides are more likely to be more effective than quinolones, which have a broader spectrum.^{2 3}

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- 1 Acute otitis media. *Clinical Evidence* 2002;(7):236-43.
- 2 Sweeney G, Picozzi GL, Browning GG. A quantitative study of aerobic and anaerobic bacteria in chronic suppurative otitis media. *J Infect* 1982;5:47-55.
- 3 Quinolones. In: British Medical Association, Royal Pharmaceutical Society of Great Britain. *British National Formulary*. London: BMA, RPS, 2002:289. (No 43.)

A memorable patient

An elderly man with flushing

An old friend aged 78 occasionally complained that he had attacks of flushing, often after quite small amounts of alcohol. He had no other complaints, so I, in my ignorance, made light of it, with a joke about the “male menopause,” and thought no more about it. He was a fit man, apart from fairly well controlled hypertension, who had been rowing competitively until his 70th birthday, and he rarely visited his general practitioner.

A month or two later, when I visited him, his face was unusually red, and he complained of a lump under his ribs. He asked me to examine it, and when I palpated his abdomen I found he had a hard nodular liver two finger breadths below the ribs obviously riddled with carcinoma. These problems always arise at a weekend, when the patient's general practitioner is not available. So, as he had private medical insurance, I immediately got him seen by a hepatologist, who confirmed the diagnosis of carcinoid

tumour. After investigation, he was further referred to a specialist in neuroendocrine tumours, a superspecialty I had not even heard of before.

Carcinoid syndrome is a condition that I had only read about in small print and largely forgotten since being a student 50 years ago. It is often well advanced, with metastases in the liver, before being recognised, because carcinomas in the liver are often silent until it is riddled with secondaries. The symptoms of carcinoid are produced by excess secretion of serotonin, and the flushing by histamine and tachykinins. He was given intensive treatment with octreotide (a somatostatin analogue), which is the specific therapy for this condition, but he died within five months.

The lesson is to never ignore an apparently trivial complaint like flushing, even if you do not know the cause.

Hans Engel *retired occupational physician, Whitehouse Way, London*