Otologyngology for Internal Medicine: Increasing Exposure to Otolaryngology Using Computer Assisted Instruction

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Introduction

Almost a quarter of all complaints seen in adult primary care practice and almost half of all complaints seen in pediatric primary care are otorlaryngology (ENT) related. In 2013, 47% of graduating U.S. medical students entered primary care fields (pediatrics, emergency medicine, internal medicine), where they will encounter these complaints However, there is currently no standardized curriculum for ENT during undergraduate medical education and there are barriers to increased specialty teaching during undergraduate medical education and residency training such as limited faculty time, limited learner’s time, and decreased perception of relevance to general practice during undergraduate medical education. Due to these limitations, computer-assisted instruction has been suggested as a format for increased exposure to ENT. The benefits of computer-assisted instruction include availability, repetition, increased exposure, and ability for use in self-assessment.

Objectives

• To increase otolaryngology exposure during undergraduate medical education using computer based learning modules.
• To assess the efficacy of this computer assisted instruction through feedback and scoring on post-module quiz following completion of module by internal medicine residents.

Methods and Materials

A computer based learning module for teaching high yield otolaryngology topics was designed for incorporation into undergraduate medical education. The module was made using Camtasia Screencaast technology. Information for module inclusion was based on previous studies that identified conditions relevant to primary care practice including hearing loss, otitis media, vertigo, epistaxis, rhinosinusitis, and head and neck cancer. The module was formatted with 10 quiz questions introducing these topics with subsequent explanations and information according to clinical guidelines from the American Academy of Otolaryngology—Head and Neck Surgery. The module was sent to all internal medicine residents for their training, the external otitis canal is enanthematous with noticeable swelling, its temperature is 98.6°F and she has no history of diabetes mellitus. Which is the next best step in management of this patient?

Clinical Presentation of Common Otolaryngologic Conditions

• Many common otolaryngologic complaints can be addressed in the primary care clinic.
• The goal of this learning module is to address common chief complaints and to assess your comfort in treating these conditions.
• There will be 10 questions with explanations to follow.
• This module should take about 30 minutes of your time.
• Please view in full screen and feel free to pause at any point.

Acute Otitis Externa

• Acute otitis externa is also known as swimmer’s ear or tropical ear
• It is generally unilateral and is associated with exposure of the ear canal to water or local trauma.
• Risk factors for AOE include a narrow external canal, eczema, seborrhea, psoriasis, and trauma from ear plugs, hearing aids or wax removal attempts.

Systemic vs. Topical Antibiotics for Acute Otitis Externa

• Topical therapy is the treatment of choice for AOE, because evidence shows that oral antibiotics are not effective. The amount of antibiotic delivered locally is orders of magnitude greater with topical application vs. oral administration.
• Commonly used topical antibiotics include fluoroquinolones or an aminoglycoside, both are antiinflammatory. No single antibiotic regimen has been shown to be superior to others.
• The addition of a corticosteroid to topical antibiotic improves symptoms, as does acetic acid, although acetic acid in the absence of an antibiotic is not effective for AOE.

Importance of diabetes status?

• Necrotizing otitis externa is a severe infection of the external auditory canal, usually caused by Pseudomonas and most commonly seen in diabetics
• Infection can spread to the temporal bone causing osteomyelitis and to the base of the skull causing fatal complications
• Arsenic shows destruction of right temporal bone. Posterior wall of the external auditory canal is intact. Occlusion of mastoid cells indicate infectious spread.
• Treatment is daily debridement of external auditory canal, antipseudomonal ear drops and IV antipseudomonal.

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References