Clinical outcomes and feasibility of ear cleaning with a bellows pipette and 2% acetic acid for chronic suppurative otitis media in Luanda, Angola: a prospective observational study

Short title: Bellows pipette and acetic acid for CSOM in Angola

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Abstract

Chronic suppurative otitis media (CSOM) is an important cause of preventable hearing impairment, particularly where access to specialist ear care is limited. Effective topical treatment depends on removal of purulent material from the ear canal. We evaluated the short-term clinical outcomes and feasibility of a manually operated bellows pipette used for aspiration of ear discharge followed by irrigation with 2% acetic acid or diluted vinegar in patients with CSOM at a tertiary hospital in Luanda, Angola. In this prospective observational study, 100 patients with persistent otorrhoea and tympanic membrane perforation were enrolled and followed after initiation of treatment. Patients or caregivers were instructed to aspirate visible discharge and irrigate the affected ear twice daily, with reassessment planned days 5 and 10 and later when clinically required. The primary outcome was complete resolution of otorrhoea in all affected ears at the final recorded assessment. Among 100 enrolled patients, 91 had an assessable final outcome. Complete resolution of otorrhoea was documented in 82 patients (82.0% of all enrolled; 90.1% of evaluable patients), persistent otorrhoea in eight, and a mixed bilateral outcome in one. Nine patients were not assessable. At day 10, 62 of 90 patients with classifiable observations (68.9%) were free of otorrhoea. Nine of 94 patients with available usability information had a recorded problem during treatment; these included technical difficulty or limited cooperation, mild pain, vertigo, fever/otalgia, non-adherence, and an anatomical obstacle. In an exploratory comparison, otorrhoea lasting more than one year was more common in patients with persistent otorrhoea than in those with complete resolution (100% versus 57.5%, Fisher's exact p=0.021). These observational findings suggest that a simple bellows-pipette cleaning method combined with 2% acetic acid is feasible and was associated with a high proportion of short-term otorrhoea resolution in this setting.