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SYSTEMATIC REVIEW AND META-ANALYSES

Cerumenolytics with or without manual extraction for impacted earwax: A network meta-analysis of randomised clinical trials

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Abstract

Background

Many different substances for cerumenolysis have been evaluated in clinical trials. We carried out a systematic review and network meta-analysis to compare their effectiveness.

Methods

Electronic databases were searched for randomised clinical trials conducted in patients with impacted cerumen evaluating cerumenolytics. The primary outcome was the proportion of patients with wax clearance using manual techniques. Rankogram plot was used to assess the “best” cerumenolytic. Odds ratio (OR) with 95% confidence intervals (95% CI) was the effect estimate.

Results

Twenty-six studies were included in the systematic review and 25 in the meta-analysis. Sodium bicarbonate (OR: 2.68, 95% CI: 1.2, 6.1) and paradichlorobenzene (OR: 30.9, 95% CI: 5.9, 161.3) were associated with significantly greater proportions of patients with wax clearance following syringing compared to normal saline. Rankogram plot revealed paradichlorobenzene to have the highest probability of being the “best” cerumenolytic. Chlorobutanol was observed to be significantly better than normal saline in adults as well as following single application. Following multiple applications, glycerol, docusate sodium, hydrogen peroxide, oil, paradichlorobenzene, hydrogen peroxide/glycerol and arachis oil/chlorobutanol/paradichlorobenzene were observed with significant cerumenolytic activities. Urea/hydrogen peroxide/glycerol was observed with a significant cerumenolytic activity without the need for further interventions such as syringing/aspiration/suction.

Conclusion

We observed several cerumenolytics to be effective in the treatment of impacted earwax when accompanied by additional manual techniques such as syringing/aspiration/suction.

CONFLICT OF INTEREST

None.

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