INPLASY

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The effect of endoscopic versus microscopic surgery on the treatment of middle ear cholesteatoma:A meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - No.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023120110

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 December 2023 and was last updated on 29 December 2023.

INTRODUCTION

*R*eview question / Objective This meta-analysis is compared the patient related outcomes between endoscopic and microscopic technique in cases of middle ear cholesteatoma.

Condition being studied Endoscopes have revolutionized the field of otology for the past two decades due to its minimally invasive technique and improved visualization. The advantage of endoscope during surgery for middle ear cholesteatoma both for diagnosing and aiding in removal of residual disease from the hidden areas and the resulting lower recurrence rates have been proven in the past by many authors. But the feasibility of totally endoscopic ear surgery and its surgical and patient related outcomes are yet to be explored in detail.

METHODS

Participant or population Middle ear cholesteatoma patients.

Intervention Patients undergoing endoscopic surgery for middle ear cholesteatomaendoscopic.

Comparator Patients undergoing microsurgical treatment for middle ear cholesteato-mamicroscopic.

Study designs to be included Randomized controlled trial.

Eligibility criteria The studies that compared the outcomes of microscopic (MES) and endoscopic (EES) techniques in case of acquired middle ear cholesteatoma and with more than 10 patients

were included. Both adult and pediatric study populations were included in this study. The articles with atleast one or more defined outcomes like recurrence, residual disease, graft uptake rate, audiological outcome, conversion rate, pain score, surgery duration, complications and quality of life outcomes were included.Abstracts, letters, editorials, reviews, expert opinion and animal studies were excluded. Studies with duplicated or insufficient data and studies without full text availability were excluded.

Information sources Information sources Using the three databases of Pubmed, Cochrane and web of science ,a systematic literature search was conducted in November 2023.

Main outcome(s) Postoperative outcomes: recurrence, residual disease.

Quality assessment / Risk of bias analysis The study quality assessment /risk of bias analysis was conducted by two reviewers independently.Study quality was assessed by Cochrane risk-of-bias instrument,which encompasses the aspect of random sequence generation and allocation concealment,blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data,selective reporting and other bias.

Strategy of data synthesis Strategy of data synthesis We used random-effects models to calculate risk ratios with 95% confidence intervals in the pooled analyses. Thecontinuous outcomes and the binary outcomeswere separately reported as mean difference andrisk ratios (RRs).Heterogeneity was assessed withthe I-squared index. Publication bias wasassessed via funnel plot. Statistical significancewas at the two-tailed 0.05 level.

Subgroup analysis Graft uptake rate, audiological outcome, conversion rate.

Sensitivity analysis Sensitivity analysis We will omit each study that isincluded in the meta-analysis one by one if thereare sufficient studies. Trial sequential analysis,Meta-regression, or Net-work meta-analyses willbe used as appropriate.

Country(ies) involved China, USA.

Keywords endoscopic；microscopic；middle ear cholesteatoma.

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