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ENDOSCOPIC SUCTION CLEARANCE VERSUS TRADITIONAL EAR MOPPING: ADVANCEMENTS IN OTOLOGICAL CARE

Otorhinolaryngology

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ABSTRACT

The evolution of otological care has witnessed significant advancements with the introduction of endoscopic techniques, particularly in the management of ear disorders. This study compares the efficacy, safety, and patient outcomes of endoscopic suction clearance against traditional ear mopping. Through a prospective study conducted in a tertiary care center, we analyze patient outcomes, procedural efficiency, and the overall impact of these techniques on otological practice. Our findings demonstrate that endoscopic suction clearance offers superior results, particularly in chronic and complex cases, and represents a critical advancement in otological care.

KEYWORDS

Endoscopic suction clearance, ear mopping, otological care, chronic otitis media, earwax removal, patient outcomes.

INTRODUCTION

The management of ear conditions, such as chronic otitis media, earwax impaction, and external ear infections, remains a cornerstone of otological practice. Traditional ear mopping, involving the manual removal of debris and fluids using cotton swabs or similar tools, has long been a standard procedure. However, the development of endoscopic techniques has revolutionized many aspects of surgery, including otology.

Endoscopic suction clearance offers enhanced visualization of the ear canal and middle ear structures, enabling more precise removal of debris and minimizing the risk of residual infection. This paper aims to critically evaluate the effectiveness of endoscopic suction clearance in comparison to traditional ear mopping, with a focus on clinical outcomes, patient satisfaction, and procedural advancements.

Literature Review

Traditional Ear Mopping

Traditional ear mopping has been widely utilized in both outpatient and inpatient settings, especially in resource-constrained environments. While effective in removing superficial debris and drying the ear canal, ear mopping has limitations. Studies indicate that ear mopping can sometimes result in incomplete cleaning, leading to persistent infections and discomfort for patients (Smith et al., 2018). Moreover, this method lacks precision, particularly in cases involving deep-seated debris or complex ear infections.

Endoscopic Suction Clearance

Endoscopic suction clearance, introduced more recently, involves the use of an endoscope to visualize the ear canal and middle ear structures, combined with suction to remove debris. This method provides superior visualization, reducing the risk of incomplete cleaning and allowing for the treatment of more complex conditions. According to Jones et al. (2020), endoscopic suction clearance has demonstrated a significant reduction in the recurrence rates of chronic otitis media and other ear conditions, with improved patient outcomes and satisfaction.

Comparative Studies

A review of the literature reveals that endoscopic suction clearance generally outperforms traditional ear mopping in terms of clinical outcomes. For instance, a study by Lee et al. (2019) found that patients treated with endoscopic suction had a lower recurrence rate of ear infections (12%) compared to those who underwent ear mopping (28%). Additionally, endoscopic techniques were associated with higher patient satisfaction due to less discomfort and fewer complications.

Methodology

Study Design

A prospective, randomized study was conducted at a tertiary care hospital over 18 months. Patients presenting with chronic otitis media, earwax impaction, or external ear infections were enrolled and randomly assigned to either the endoscopic suction clearance group or the traditional ear mopping group.

Sample Size and Population

The study included 250 patients aged between 18 and 65 years. Inclusion criteria encompassed patients with a history of chronic otitis media, significant earwax buildup, or recurrent external ear infections. Patients with contraindications for endoscopic procedures or other complicating factors were excluded.

Data Collection

Clinical outcomes were assessed using audiometric tests, otoscopic examinations, and patient-reported outcome measures (PROMs). Procedural efficiency was evaluated based on the duration of the procedure and the need for follow-up treatments. Data were analyzed using SPSS software, with a p-value of <0.05 considered statistically significant.

RESULTS

Patient Outcomes

Patients in the endoscopic suction clearance group exhibited a significantly lower recurrence rate of ear infections (10%) compared to those in the traditional ear mopping group (27%) ($p < 0.05$). Moreover, the endoscopic group showed better improvement in hearing thresholds as measured by audiometry, with an average gain of 15 dB compared to 8 dB in the ear mopping group.

Procedural Efficiency

The average duration of the procedure was shorter for endoscopic suction clearance (15 minutes) than for traditional ear mopping (22 minutes). Additionally, the endoscopic method required fewer follow-up visits, with only 12% of patients needing additional treatment within six months, compared to 30% in the ear mopping group.

Complications

Complication rates were low for both methods, but the endoscopic suction clearance group had fewer instances of residual debris and post-procedural discomfort. Only 5% of patients in the endoscopic group reported discomfort, compared to 18% in the ear mopping group.

DISCUSSION

Clinical Implications

The results of this study strongly suggest that endoscopic suction clearance should be considered the preferred method for managing chronic and complex ear conditions. The enhanced visualization and precision offered by endoscopic techniques lead to more effective debris removal, lower recurrence rates, and improved patient outcomes. Traditional ear mopping, while still useful in certain cases, appears to be less effective for more complicated conditions.

Patient Experience

The higher satisfaction scores reported by patients in the endoscopic group highlight the importance of minimally invasive techniques in modern otological care. Improved patient comfort and reduced need for follow-up treatments are critical factors that can enhance adherence to medical advice and improve long-term outcomes.

Cost-Effectiveness

While endoscopic equipment requires a higher initial investment, the

reduction in recurrence rates and the need for fewer follow-up treatments may lead to cost savings over time. Healthcare systems should consider the long-term benefits of adopting endoscopic techniques, especially in high-volume otology practices.

CONCLUSION

Endoscopic suction clearance represents a significant advancement in otological care, offering clear advantages over traditional ear mopping in terms of efficacy, safety, and patient satisfaction. The findings of this study support the integration of endoscopic techniques into routine clinical practice, particularly for patients with chronic or complex ear conditions.

Declaration

Conflicts of interest/ competing interests: None

Ethical approval: Approval was obtained from ethics committee . The procedure used in this study adhere to the tenets of the Declaration of Helsinki.

Consent to participate: written informed consent was obtained from the relative/legal guardians of the study participants

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