

The Relevance of Age, BMI, and Right Versus Left Ear Surgery to the Incidence of Taste Disturbance After Stapes Surgery

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Introduction

- Many factors such as age and body mass index (BMI) have been shown to influence post-operative outcomes in patients undergoing stapedectomy/stapedotomy.
- This study examines these factors to see if they have any impact on the incidence of taste disturbance, a commonly reported complication of stapes surgery.¹
- Our study predicts that BMI and age are correlated with the incidence of taste disturbance post-operatively following stapes surgery.

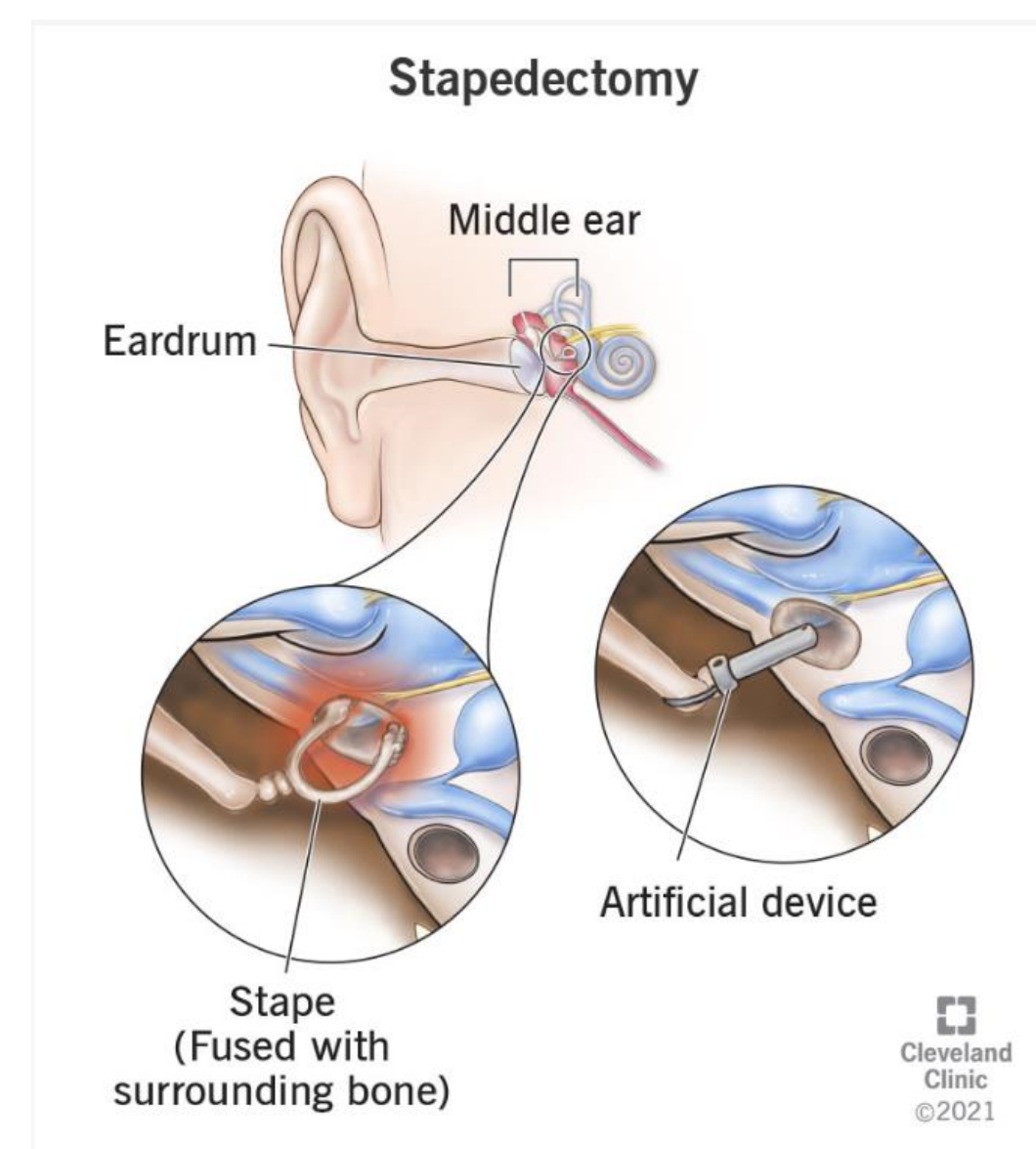


Figure 1. Fused stapes replaced with an artificial device.

Aims and Objectives

- Identify common complications of stapes surgery and its implications in surgical outcomes and recovery.
- Analyze the effect of age, BMI, and side of ear surgery on the incidence of taste disturbance after stapes surgery.
- Explore the potential for improved management of taste disturbance post-operatively.

Methods

- Design:** Retrospective Chart Review
- Participants:** 807 patients with a prior history of otosclerosis undergoing elective stapes surgery (excluding adults unable to consent, patients under age 18, pregnant women, prisoners).
- Data Collection:** Exploratory design analyzing patient charts to search for correlations between age, BMI, side of surgery and the incidence of taste disturbance following stapes surgery.
- Analysis:** T-test and ANOVA tests to identify differences in taste disturbance incidence.

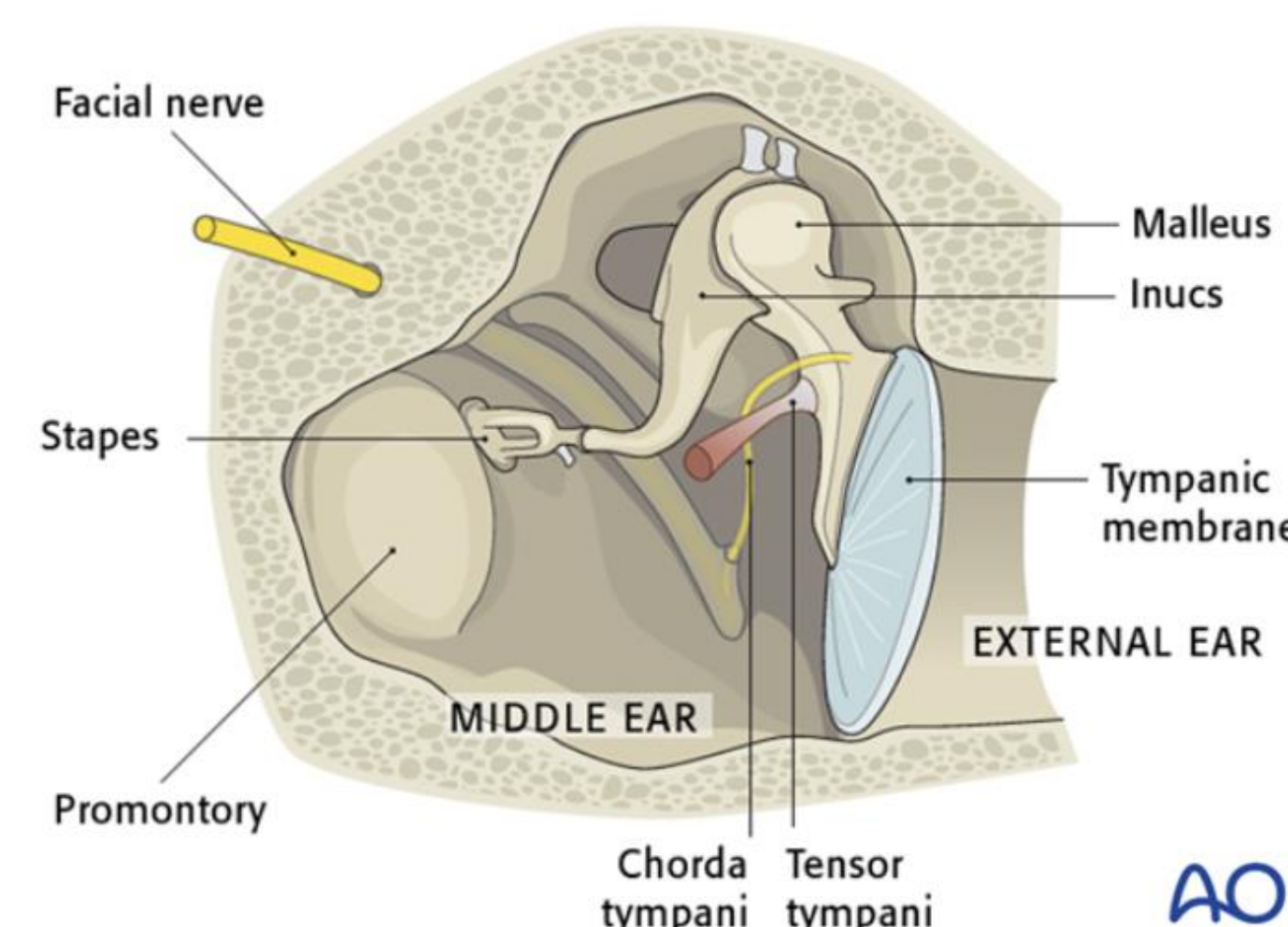


Figure 2. Anatomic relationship of the stapes with the chorda tympani, the major nerve that innervates the taste buds in the anterior two thirds of the tongue.

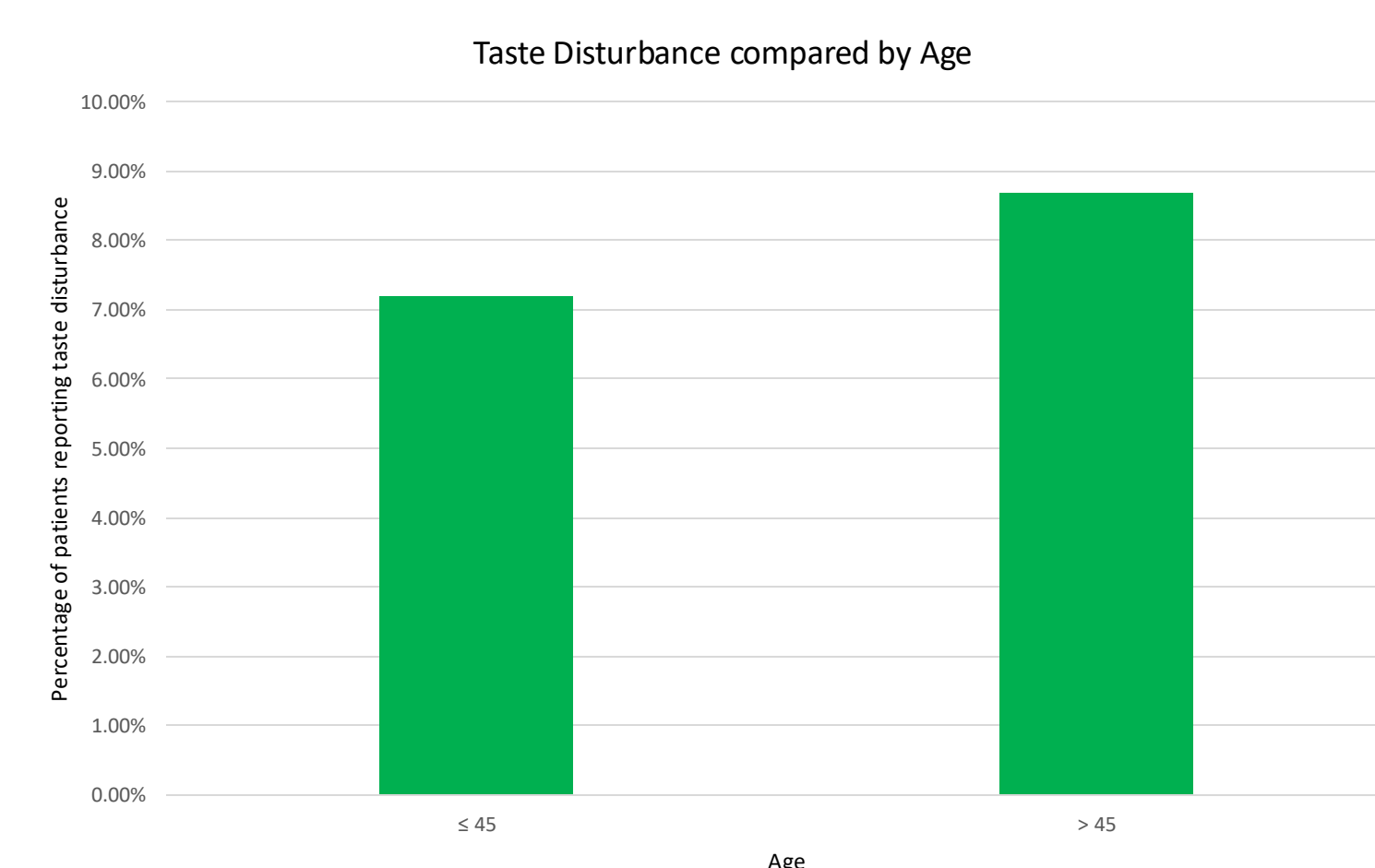


Figure 3. Proportion of taste disturbance incidence factoring in age (P=.104).

Results

- Participants:** 807 total patients (15 underweight, 320 healthy weight, 278 overweight, 194 obese).
- Age:** Comparing younger patients (Age ≤45) to older patients (Age >45), there was no significant difference in taste disturbance (P=.104).
- BMI:** Patients in the 4 BMI groups showed no significant difference in reported taste disturbance (P=.138).
- Side of Operation:** There was a significant difference in taste disturbance incidence in patients who had undergone surgery in the right ear versus patients who had surgery in the left ear (P=.004)

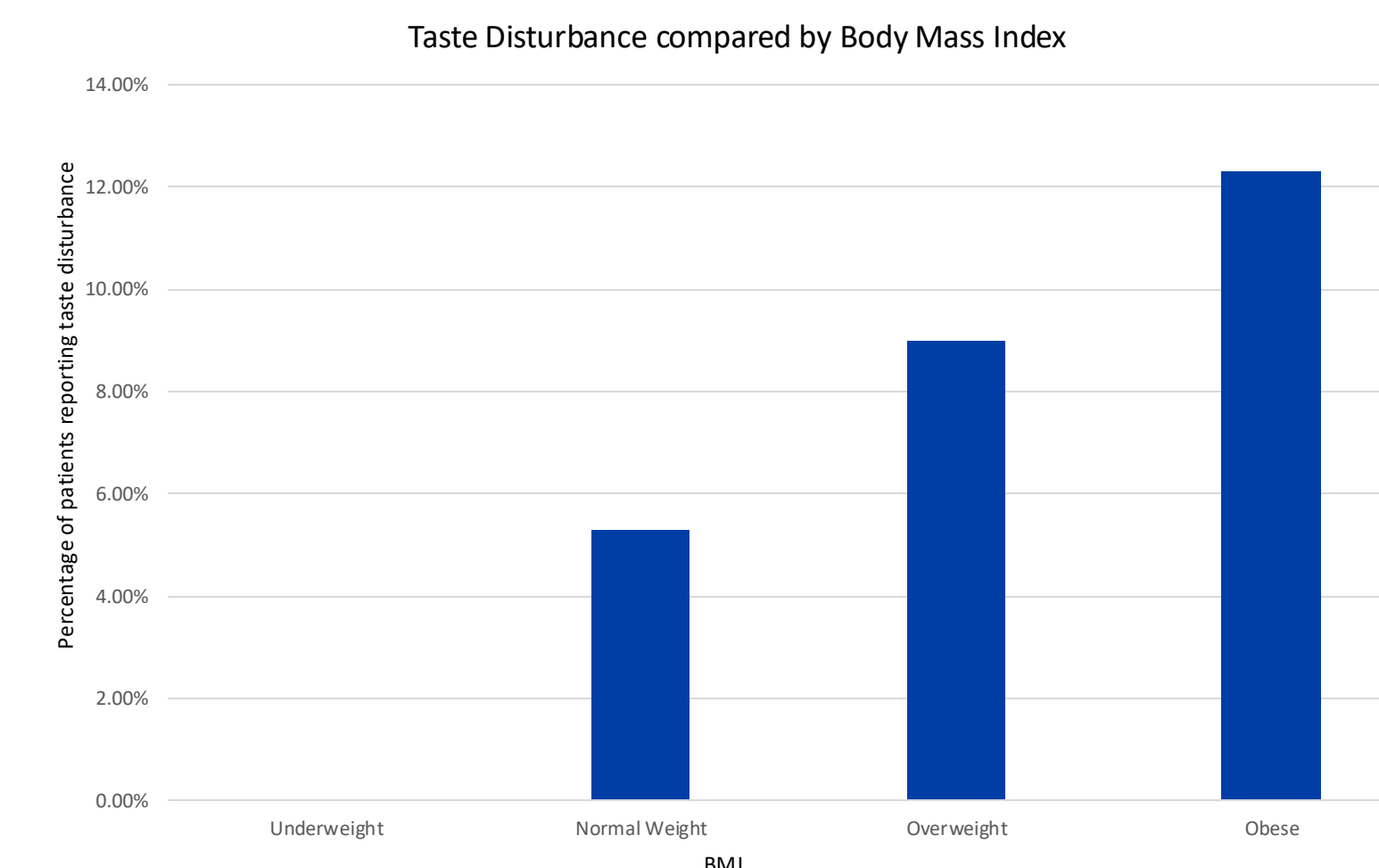


Figure 4. Proportion of taste disturbance incidence factoring in BMI (P=.138).

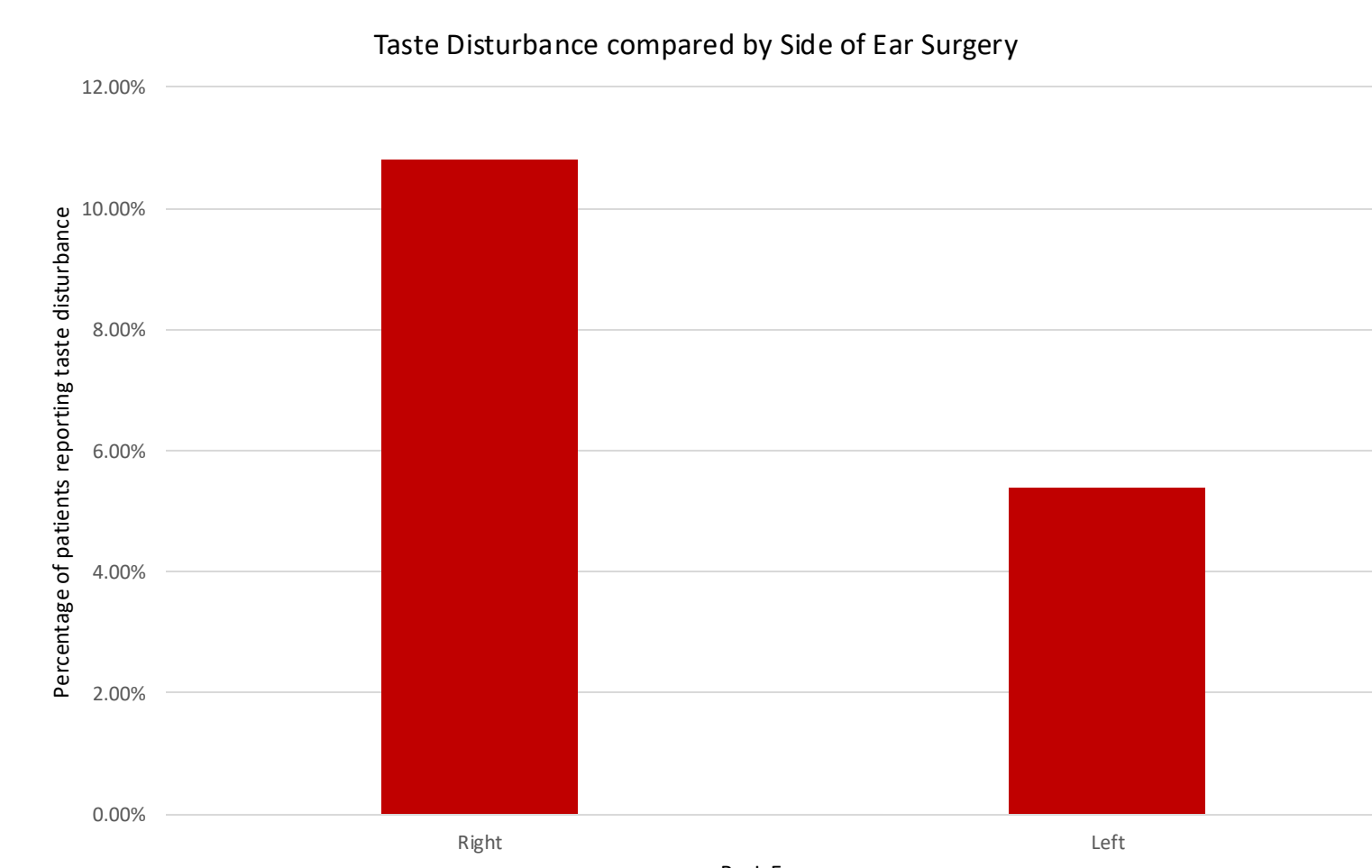


Figure 5. Proportion of taste disturbance incidence factoring in the side on which surgery was performed (P=.004).

Conclusions

- Our results provide a clear picture of the effect of several variables on the incidence of taste disturbance after stapes surgery, revealing qualitative insights currently unexplored in existing literature.
- Although age has been shown to be important for recovery of taste function in stapes surgery patients, it does not appear to be correlated with increased incidence.⁴ BMI also does not have any correlation to incidence.
- Right ear surgery showed to have a significant increase in incidence of taste disturbance versus the left ear, a result that has not yet been seen in existing literature.
- Future research should include stapes surgery patients from multiple surgical centers to explore other variables such as comorbidities and length of surgery. This could provide a more holistic understanding of the factors involved in the recovery of taste function.

References

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