



ENT NEWSBUZZ

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Dear Doctor,

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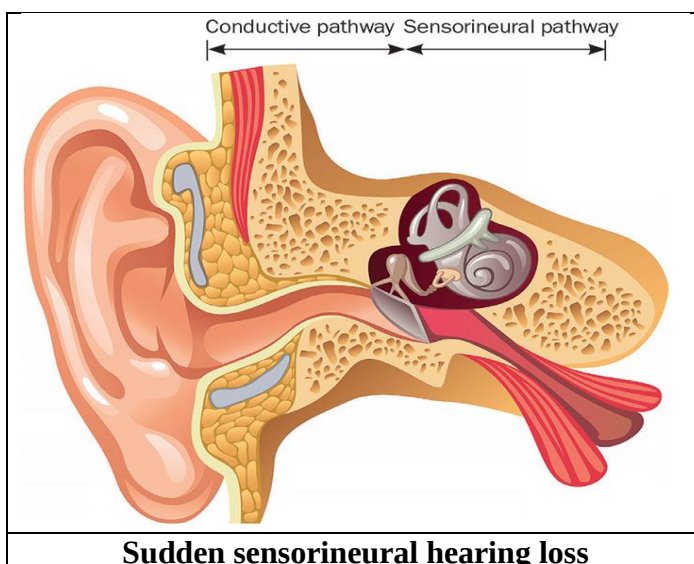
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Evaluation of the factors associated with the prognosis of patients with sudden deafness

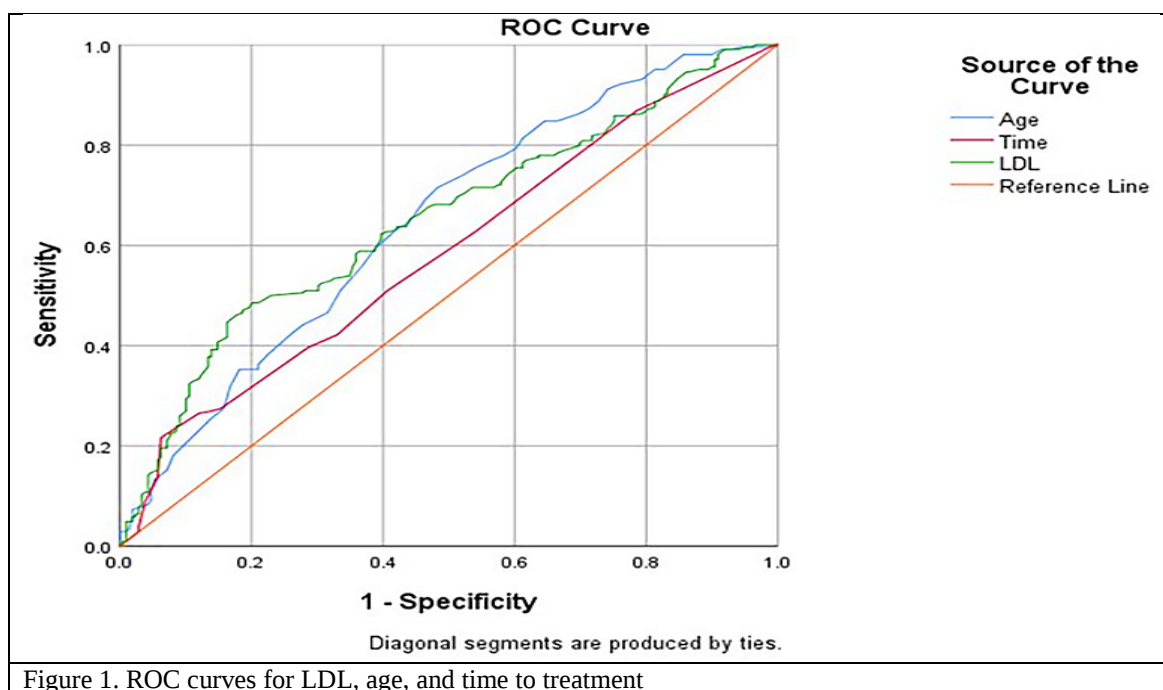
Introduction: Sudden sensorineural hearing loss (SSNHL) is a medical disease characterized by sudden and unexplained hearing loss in one or more contiguous frequency bands, with a drop of more than 20 decibels within 72 hours following a pure-tone audiometry test.¹ The cause and pathophysiological process of sudden deafness remain unknown. Deafness with a sudden onset may be caused by both systemic and local causes. Patients experiencing sudden deafness may experience paresthesia surrounding the ears, tinnitus, ear fullness, dizziness, and sudden hearing loss.² Previous studies indicated that other factors impact treatment results, even if current guidelines do identify certain characteristics that affect the prognosis of sudden deafness, such as the kind of hearing loss curve and the length of the initial visit. In order to improve patient outcomes through targeted interventions, one of the most important aspects of current research on sudden deafness is identifying clinical features and indications connected to prognosis. Currently, there was a scarcity of research that examines patients' clinical characteristics as well as laboratory indicators.¹ The objective of this study was to determine variables that may affect the patients' prognosis.



Methods: This study included 414 people with acute deafness. The efficacy of the treatment was evaluated by dividing the participants into groups based on the results of hearing tests conducted before and after hospital admission. Relevant data were collected, and univariate analysis, multifactor logistic regression, and Spearman's correlation analysis were used to determine the effectiveness of each factor. Every participant in the study underwent pure-tone audiometry testing both before and after treatment.



Results: Age, tinnitus prevalence, degree of hearing loss, and triglyceride levels differed significantly between the two groups. A Spearman's rank correlation study revealed a negative association ($r < 0$, $P < 0.001$) between a hearing threshold of at least 81 dB at 250 to 8000 Hz, low-density lipoprotein (LDL), triglyceride levels, and prognosis. Prognosis and high-density lipoprotein levels were positively correlated ($r > 0$, $P < 0.001$). Age, LDL level, and the amount of time since the sickness started were all shown to be highly predictive by the receiver operating characteristic curve. (Figure 1) A multivariable logistic regression study revealed that age > 47 years, LDL > 2.93 mmol/L, and time to presentation > 10 days after disease onset were associated with a poor prognosis.



Discussion: Age, tinnitus symptoms, high LDL levels, and the kind of hearing curve were all identified as factors influencing the prognosis of patients with sudden deafness in this study.¹ According to Lin W et al., the prognoses of individuals with sudden deafness were found to be independently connected with age, the type of hearing curve at the time of initial diagnosis, the acute phase, and the sudden deafness site.² Diao T et al. found that age and PLR were independent predictive variables for patients with sudden total deafness (STD). The prognosis improves with younger age and a greater platelet/lymphocyte ratio (PLR). Clinically, PLR level and patient age can be used to assess an STD patient's prognosis; these factors are crucial in predicting the prognosis of STD patients.³



Conclusion: The current study concluded that tinnitus symptoms, age, high LDL levels, and the kind of hearing curve all affect the prognosis of patients experiencing sudden deafness.

Patients at high risk should receive specialized treatment and early intervention to enhance the outcome of sudden deafness.

References:

1. Yao K et al. A Comprehensive Study on Sudden Deafness for Analyzing Their Clinical Characteristics and Prognostic Factors. *Ear Nose Throat J.* 2024 Mar 10;1455613241232796.
2. Lin W et al. Clinical features and influencing factors for the prognosis of patients with sudden deafness. *Frontiers in Neurology.* 2022 Jun 2;13:905069.
3. Diao T et al. Correlation between the prognosis of sudden total deafness and the peripheral blood inflammation markers. *Frontiers in Neurology.* 2022 Jun 15;13:927235.

Assessment of long-term clinical outcomes of patients with chronic rhinosinusitis with nasal polyps associated with expanded types of endoscopic sinus surgery

Introduction: Chronic rhinosinusitis (CRS) is a common and difficult clinical condition. It has several phenotypes and underlying processes that lead to the persistence or recurrence of nasal polyps (NPs). There are two types of CRS: CRS with NP (CRSwNP) and CRS without NP (CRSsNP). It was believed that the prevailing inflammatory patterns affect the clinical presentations and reactions to contemporary medicinal and surgical treatments. Asthma-associated CRSwNP was thought to be the most refractory type of CRS, prone to relapses and challenging to manage.¹ The development of inflammatory endotypes and biomarkers for patient classification has significantly altered traditional surgical methods, particularly in patients with type 2 (T2) inflammatory profiles. There was still disagreement, meanwhile, about the best surgical approach, and polyp recurrence frequently poses a challenge for CRSwNP patients. Expanded functional ESS (E-FESS), which includes treating the mucosa



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covering the sinus cavity and resectioning bony sinus structures, was previously described with the goal of anatomically restoring mucociliary clearance. However, recent technological advancements have made this possible.² This study aimed to examine these discrepancies by comparing the clinical results of expanded-functional endoscopic sinus surgery (E-FESS) versus more-limited FESS (L-FESS).

Methods: A total of 274 individuals were included in a retrospective analysis to evaluate the surgical results between CRSwNP patients treated with L-FESS and those who underwent E-FESS. Clinical and demographic data were gathered. The information includes the following: age, gender, history of smoking, asthma, N-ERD, prior ESS, allergic sensitization (atopy), and use of systemic corticosteroids (SCS). Additionally, pre-surgery serology was obtained, which included counts of peripheral eosinophils and total immunoglobulin (Ig) E levels. At baseline and two years following surgery, quality of life (QOL), endoscopic, and radiographic results were compared. A minimum clinically significant difference of 12 points in SNOT-22 change was considered to be the respondent's clinical state.

Results: E-FESS was performed on 111 patients (40.5%) and L-FESS on 163 patients (59.5%). At baseline, both surgery groups demonstrate endoscopic, radiological, and QoL results. Although there were notable clinical improvements in both groups, there was a more substantial shift in SNOT-22 (14.8 ± 4.8 , $p = 0.002$) following E-FESS. Lower surgical revision rates and more significant improvements in endoscopic and radiological scores were also observed in the E-FESS group. NPS showed a significant mean improvement, changing by 4.2 ± 2.3 points in the E-FESS group and 3.1 ± 2.6 points in the limited procedures group. MLK scores showed similar results ($p < 0.001$) (Figure 1).

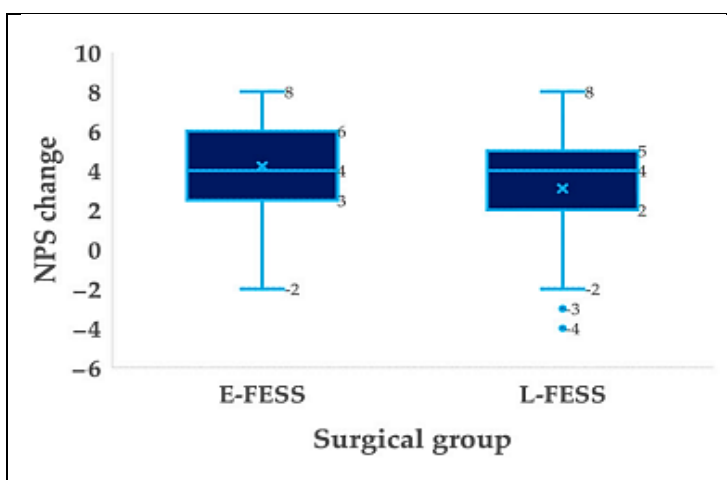


Figure 1 shows the boxplot distributions of the differences in nasal polyps score (NPS) between the two groups.

Discussion: In this study, QoL improved significantly in both surgical groups following surgery, as indicated by the SNOT-22 score.² According to the Smith TL et al. study, ten-year prospective outcomes of ESS for CRS suggest that the initial clinically substantial improvements in QOL seen six months postoperatively were sustainable over time. Improvements in health utility values (HUV) and long-term QOL were recognized by more than 75% of patients as clinically meaningful.³



Conclusion: The current study concluded that E-FESS improves clinical outcomes and reduces revision surgery rates in CRSwNP patients two years after surgery, regardless of comorbidities.

Expanded-functional endoscopic sinus surgery (E-FESS) also promotes the advancement of radiographic and endoscopic scales, demonstrating better control over oedema and recurrence of nose development and reducing the need for revision procedures.

References:

1. Zhang L et al. Long-term outcomes of different endoscopic sinus surgery in recurrent chronic rhinosinusitis with nasal polyps and asthma. *Rhinology*. 2020 Apr 1;58(2):126-35.
2. Martin-Jimenez D et al. Long-Term Clinical Outcomes in Patients with Chronic Rhinosinusitis with Nasal Polyps Associated with Expanded Types of Endoscopic Sinus Surgery. *Journal of Clinical Medicine*. 2024 Feb 1;13(3):866.
3. Smith TL et al. Long-term outcomes of endoscopic sinus surgery in the management of adult chronic rhinosinusitis. *International forum of allergy & rhinology*. 2019 Aug; 9(8):831-841.

Evaluation of Ansa Cervicalis External Branch Anastomosis for the Restoration of High Tone Voice in Thyroid Surgery

Introduction: Recurrent laryngeal nerve (RLN) injury is the most common cause of post-thyroidectomy dysphonia (PTD), prompting numerous studies to focus on preventing it after thyroid surgery.¹ Resection of the RLN results in aspiration, brief phonation, and hoarseness due to paralysis and atrophy of the ipsilateral vocal cord. The ipsilateral vocal cord cannot move again because of misdirected reinnervation of the adductor and abductor muscles, even though the nerve can be repaired by direct anastomosis of the cut ends or free nerve grafting to cover the defect. The cricothyroid muscle is innervated by the external branch of the superior laryngeal nerve (EBSLN). The inability to produce high-pitched voices results from damage to this nerve, which was more common in women and vocal professionals. It also causes paralysis and atrophy of this muscle. Surgeons typically use visual inspection during thyroid surgery in



order to prevent nerve damage, although this was not always possible. The RLN was monitored intraoperatively via nerve monitoring. The nerve's identification rate was significantly enhanced when this method was used on the EBSLN. Treatment options for low-pitched voice and voice fatigue, especially in female subjects, were restricted when the external branch of the superior laryngeal nerve (EBSLN) was injured.² The purpose of this study was to evaluate an innovative surgical technique called ansa cervicalis to EBSLN anastomosis (A-E anastomosis) for the restoration of a high-tone voice.

Methods: In this retrospective analysis, 20 patients (16 females) had EBSLN resection during thyroid surgery, while 13 patients (12 females) had unilateral EBSLN resection with A-E anastomosis. The normal control group consisted of 1025 men and 4494 women who had regular laryngoscopies before thyroid surgery. A flexible fiberscope was used to perform laryngoscopic examinations on all patients, both before and after thyroid surgery. The evaluation was repeated if vocal cord paralysis was found. Preoperatively and intermittently after surgery, phonatory function was assessed using a Phonation Analyzer PA-1000.

Results: High-tone voice pitch was considerably lowered (673.9–471.5 Hz, $p = 0.047$) in patients undergoing A-E anastomosis after surgery, and restoration was accomplished in 5 months. In female patients undergoing A-E anastomosis, the high-tone voice pitch trend up to 25 months' post-surgery as elucidated in Figure 1. The mean voice pitch of female patients undergoing EBSLN resection was significantly lower than that of controls ($p = 0.002$), with mean values of 580.4, 522.8, and 682.0 Hz for A-E anastomosis, EBSLN resection, and controls, respectively. A high-tone voice may have recovered if the female controls' high-tone voice pitch exceeded 497 Hz (mean $\pm$ 1SD). 73% of A-E anastomosis patients overall exceeded this threshold; this was slightly higher than the 43% of individuals who had EBSLN resection.

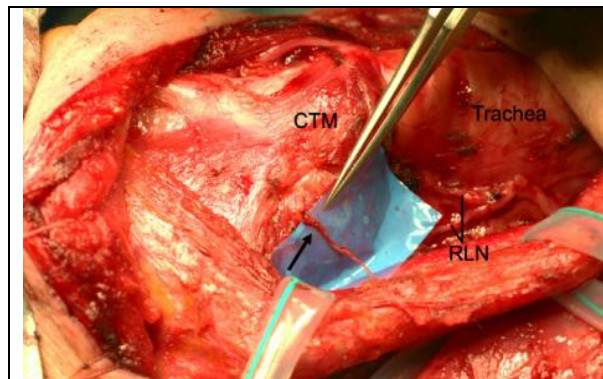


Figure 1: Ansa cervicalis to external branch anastomosis performed on female patient undergoing a complete thyroidectomy for branch-related papillary thyroid cancer.

Discussion: Overall, 73% of the patients in this study who had the A-E anastomosis operation were able to attain a high-tone voice that was within normal limits.² According to the study by Iwata AJ et al., patients had worse voice results when at least one EBSLN response amplitude was reduced by more than 50% following dissection when measured using cricothyroid intramuscular (CTM) needle electrodes.³



Conclusion: The current study concluded that A-E anastomosis, a straightforward and new surgery following EBSLN resection, resulted in some recovery of high-tone voice, but not to normal levels. After undergoing this surgery, 73% of patients were able to acquire a high-tone voice that was within the normal range.

Ansa Cervicalis External Branch Anastomosis is a simple, flexible treatment that can be performed alongside thyroid surgery without causing any complications.

References:

1. Huh G et al. Revisiting Loré's retrograde thyroidectomy from the perspective of preserving the external branch of the superior laryngeal nerve. *Gland Surg.* 2023 Jul 31;12(7):928-939.
2. Miyauchi A et al. Ansa Cervicalis External Branch Anastomosis to Restore High Tone Voice in Thyroid Surgery. *The Laryngoscope.* 2024 Mar 7: 38450749.
3. Iwata AJ et al. Superior laryngeal nerve signal attenuation influences voice outcomes in thyroid surgery. *The Laryngoscope.* 2021 Jun;131(6):1436-42.



Case report on congenital hairy polyp in the palatopharyngeus muscle

Introduction: Congenital hairy polyps are fleshy, pedunculated lumps that can develop in the nasopharynx or oropharynx of newborns and infants.¹ Their origin is still contested, although the most widely accepted explanation attributes them to an abnormal development of the branchial apparatus. They are also known as choristomas and dermoids, and they share the same characteristics as mature ectodermal and mesodermal tissue derivatives. Patients may exhibit clinical signs such as airway obstruction, difficulty swallowing and feeding, or an intraoral lump discovered by accident.² This case described a 2-month-old girl who was born with a congenital hairy polyp on her left palatopharyngeus.

Case presentation: A 2-month-old previously healthy girl was admitted to the pediatric emergency room for an intra-oral tumor observed by her parents. The mass was discovered for the first time at the age of 2 weeks. The parents also reported that the lesion is typically observed following episodes of vomiting rather than being there all the time. The parents denied experiencing symptoms of upper airway obstruction, such as stridor. However, they did see many choking events related to feeding and intermittent stertor. The patient was not failing to thrive; rather, weight gain was occurring as expected. Physical examination revealed no intraoral mass, with the exception of a slight asymmetry in the soft palate. Pharyngeal or laryngeal lesions or abnormalities could not be detected by flexible fiberoptic nasolaryngoscopy (FFNL). The mass, a soft tissue-squishy intra-oral mass that seemed to appear and go after swallowing, was captured on video, photographed by the parents several times, and saved on their smartphones (Figure 1). The upper esophagus and the pharynx were both home to an extended polypoid mass on magnetic resonance imaging (MRI).



Figure 1. A picture of the intraoral lump taken by the patient's parents.



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The mass was approximately 5 cm in length and seems to have come from the left pharyngeal wall initially. Figure 2 shows the hyperintense signal on the lesion wall and the hypointense signal on the central aspect of the T1 weighted sequence. A surgical excision was scheduled because of the unpleasant symptoms. A stiff direct laryngoscopy-bronchoscopy (DLB) was carried out initially. The posterior side of the left palatopharyngeus muscle was shown to be the source of a big soft tissue, non-cystic, mushy lump. After the mass was removed and isolated at its pedicle, the

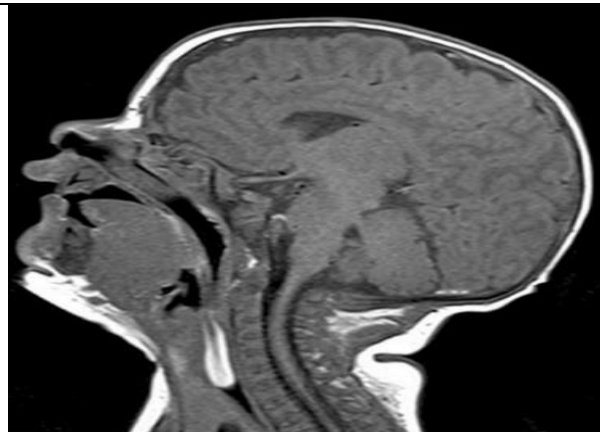


Figure 2. A sagittal T1-weighted MRI scan shows an elongated polypoid mass spreading from the throat to the esophageal opening.

upper esophagus was seen and determined to be normal. After that, a Boyle-Davis retractor was placed within the mouth and fastened to the Mayo stand. After inspecting and palpating the oropharynx and soft palate, the tumor was fully removed with its pedicle from the posterior portion of the palatopharyngeus muscle. Significant intraoperative bleeding did not occur. Under a microscope, the mass revealed a stratified squamous epithelium that was keratinizing.

Discussion: Congenital hairy polyps of the naso- and oropharynx were uncommon, although they can appear as airway or esophageal masses, causing respiratory discomfort or choking in a juvenile patient.¹ Hairy polyps usually show up as pedicled masses with a central core of soft tissue and fat, but occasionally their imaging results can be unusual, and they may be related to other congenital anomalies. Hairy polyps and related abnormalities can be accurately diagnosed with CT and MRI.³

Conclusion: Congenital hairy polyps are unusual nasooropharyngeal abnormalities found in newborns and infants. The diagnosis can be difficult at times because the lesion may have "swallowed" and become buried inside the esophageal inlet. A smartphone video clip of the lesion can be very helpful to the doctor in helping to restrict the differential diagnosis and develop a treatment plan.

Surgical excision is the primary treatment for the complete removal of congenital hairy polyp's lesions.



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References:

1. Richter A et al. Congenital hairy polyp of the oropharynx presenting as an esophageal mass in a neonate, a case report and literature review. International Journal of Pediatric Otorhinolaryngology. 2016 Jan 1;80:26-9.
2. Smailly H, Isaac A. Congenital hairy polyp of the palatopharyngeus muscle: A case report. Otolaryngology Case Reports. 2024 Mar 1;30:100563.
3. Yang S et al. CT and MRI Features of Hairy Polyps in Neonates and Infants: A Retrospective Study of 14 Patients. Diagnostics. 2023 Apr 3;13(7):1328.



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