



ENT NEWSBUZZ

Vol 2 | Issue 11 | 2023

Dear Doctor,

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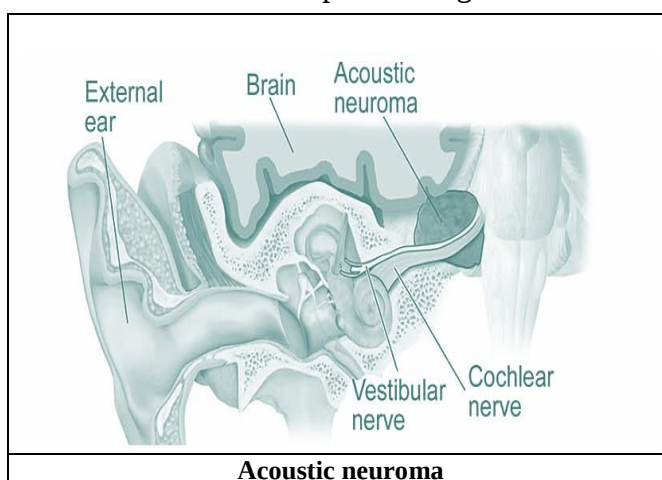
Best Regards,

Medical Team, Micro Labs Ltd



A study on evaluating the retrosigmoid sinus procedure for the removal of acoustic neuromas

Introduction: Acoustic neuroma (AN) is the most frequent benign lesion in the posterior cerebral fossa, accounting for 80% of all tumours at the cerebellar pontine angle. With the use of cutting-edge microscopes, neuronavigation, intraoperative electrophysiological monitoring, and other technologies, resection-related problems and death rates have considerably decreased, while maintaining patient safety and maintaining facial nerve function remain the primary goals of surgery.¹ Microsurgical removal of the tumour in the cerebellopontine horn region and in the inner auditory canal (IAC) using the retrosigmoid technique is the main treatment for acoustic neuroma. The tumour must be entirely removed from the IAC in order to lower the probability of recurrence and its consequences. The procedure is made more difficult by the vestibulocochlear and facial nerves, both of which run via the IAC. The medial wall of the bone labyrinth, which carries the delicate inner ear components, is situated next to the IAC.²



The purpose of this study was to determine whether the technique used to guide acoustic neuroma resection, such as three-dimensional (3D) high-resolution computed tomography (HRCT), can be used to calculate the ideal resection angles for IAC excision.

Methods: A total of 256 unilateral acoustic neuroma patients who underwent HRCT scans before and after surgery were included in this prospective analysis. Before and after surgery, all patients got HRCT scans with a GE Healthcare Optima CT680 CT scanner. The orbitomeatal line was used as the radiographic baseline during the axial plane scans, which were conducted with the patients lying down in a conventional anatomical position. The Syngo 2008G workstation was used for collecting and analysing images. On the basis of the collected HRCT pictures, IAC was then evaluated, and surgery was scheduled.



Results: The labyrinth's ideal grinding angle was 42.3°, which permitted IAC resection in 76.3% of patients and total tumour resection in 94.1% of patients while also ensuring the labyrinth's integrity throughout the surgical procedure. (Table 1) A preliminary plan was established to determine the region of the IAC to be removed after measuring the positional relationship between the anterior semicircular canal, posterior semicircular canal, common crus, and IAC. The radiologist repeated HRCT postoperatively, and the distance BC was utilised to assess the effectiveness of IAC resection. (Figure 1) This measurement can be performed to calculate the volume of tissue removed and evaluate the success of the procedure.

	$\bar{X} \pm S$	Range	95% CI
AC	9.6 ± 1.4	6.7–11.7	7.5–11.4
BC	6.9 ± 1.3	3.0-9.6	6.5–7.1
GH	6.1 ± 0.9	4.6–9.3	6.0-6.3
EI	4.8 ± 1.1	3.0-7.8	4.7–4.9
EF	9.5 ± 1.3	7.5–11.1	7.9–10.8
α	42.3 ± 7.6	35.4–56.9	37.4–54.8
IAC resection rate	76.3%±20.4%	36.2%-91.7%	56.8%-97.7%
Tumor resection rate	94.1%±6.2%	85%-100%	87.5%-100%

Table 1 Measurements of IAC

Discussion: Because of recent developments in technology, research, and electrophysiological monitoring, which have improved prognosis and decreased mortality for acoustic neuroma surgery, there is now a better chance of success. The most common surgical method for acoustic neuroma excision is the retrosigmoid method.²

In this study, achieved 94.1% overall tumour resection rate. Postoperative cerebrospinal fluid leakage was the most typical complication.² The study by Breun M. et al. revealed in 96.4% of cases, the entire tumour was completely removed. Hearing preservation was observed in 23% of patients with large tumours and 44% of patients with small tumours. CSF leakage was the most typical postoperative complication in the first three months following surgery.³

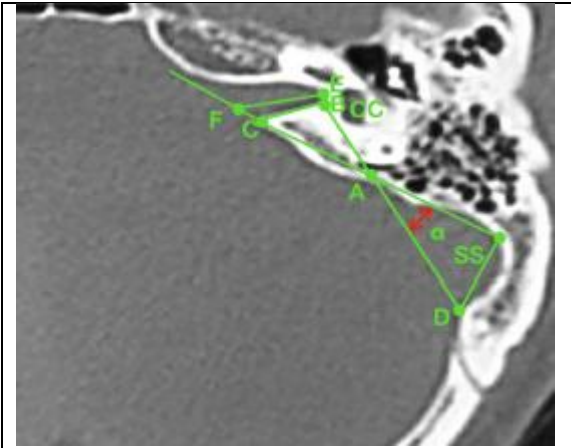


Figure 1: IAC examination and surgical planning - The axial plane of the figure contains the lateral semicircular canal, the sigmoid sinus (SS) (point G), the posterior semicircular canal (common crus) (CC), the posterior lip of the IAC (point C), and the base of the IAC (point E).

Conclusion: The current study concludes that the use of a retrosigmoid method for removing acoustic neuromas from the IAC is both safe and effective for preserving facial and vestibulocochlear nerve function.



Endoscope-assisted neurosurgical procedures and electrophysiological monitoring are predicted to enhance acoustic neuroma excision outcomes in the future.

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A study on evaluating the nasal functional results, sleep metrics, and anxiety parameters in individuals with various septal deviation types after septoplasty

Introduction: Nasal blockage is the most frequent problem in rhinology practice. Nasal septal deviation is one of its primary causes, and septoplasty, which is thought to be the only effective treatment for it, is the third most common ENT operation. Numerous symptoms that have been associated with nasal obstruction and nasal septal deviation are known to have an effect on patients' quality of life (QOL).¹ A substantial portion of human existence is occupied by sleep, which is a physiological, psychological, and social concept that also has an impact on an individual's quality of life. One of a healthy life's most fundamental needs is sleep. The most frequent causes of sleeplessness are daily stress and anxiety. Anxiety is a feeling that makes a person react disproportionately and irrationally to other feelings like worry, anxiety, and fear.² The purpose of this study was to examine the efficacy of septoplasty on nasal functional outcomes, sleep quality, and anxiety in individuals with various forms of septal deviation.

Methods: In this prospective study, a total of 90 participants were included. Depending on the type of septal deviation, the patients were split into 3 groups: anterior (group 1), posterior (group 2), and anteroposterior (group 3). The Pittsburgh Sleep Quality Index (PSQI), the Beck Anxiety Inventory (BAI), the Hospital Anxiety and Depression Scale (HADS-A and HADS-D), and the Nasal Obstruction Symptom Assessment questionnaires were given to all groups and completed at the preoperative and six-month postoperative time points.

Results: Table 1 shows the preoperative and postoperative BAI, HADS-A, HADS-D, and PSQI values for the 90 patients in the study. The Pittsburgh Sleep Quality Index, Hospital Anxiety Scale, and Beck Anxiety Inventory scores of all groups were all significantly lower after septoplasty, although the Hospital Depression Scale score was unaffected. The preoperative and postoperative Beck Anxiety Inventory results for Group 2 were the highest. Groups 1 and 2's Pittsburgh Sleep Quality Index scores were reduced after septoplasty. Figure 1 displays the preoperative and postoperative NOSE scores for the three groups. In all 3 groups, postoperative values were considerably lower than preoperative values ($P < 0.05$). The group 3 patients had the highest post-operative NOSE score.

	Preoperative Score	Postoperative Score	P*
BAI	9 (0-63)	7 (0-40)	< .001*
HADS-A	8 (4-20)	8 (3-17)	.005*
HADS-D	9 (5-16)	9 (5-16)	.125
PSQI	8.5 (1-17)	4 (0-19)	< .001*
*Wilcoxon signed-rank test; *P < .05. BAI, Beck Anxiety Inventory; HADS-A and HADS-D, Hospital Anxiety and Depression Scale; PSQI, Pittsburgh Sleep Quality Index.			

Table 1. The Impact of the Septoplasty Procedure on the Study's Values



Discussion: In this study, anxiety was measured using the BAI score, and postoperative values were found to be lower than preoperative values in all three groups. Group 2 had the highest preoperative and postoperative BAI scores when the different septal deviation types were taken into account. Group 2 had preoperative and postoperative BAI scores that were both greater than 10, indicating mild to severe anxiety. The NOSE score revealed that group 2 had the highest preoperative value. In other words, while group 2 had the most nasal congestion, it was also the group with the most anxiety. When treating patients with septal deviation, the correlation between NOSE and BAI scores should be taken into account.² In a study by Ma Q et al., it was revealed that patients with septum deviation had higher levels of both anxiety and depression than those in the control group in terms of both prevalence and severity.³

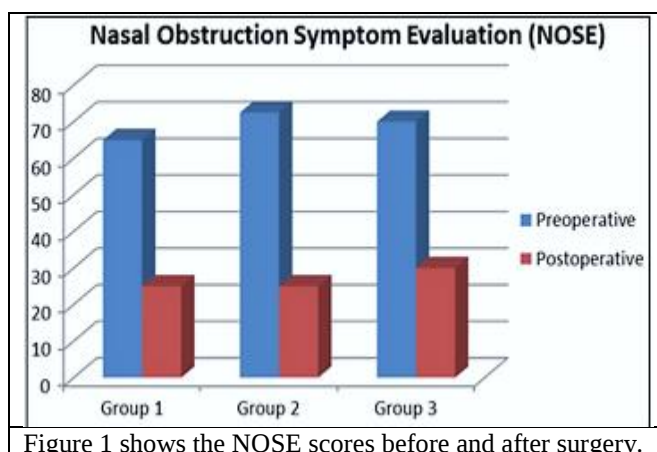


Figure 1 shows the NOSE scores before and after surgery.

Conclusion: The current study concludes that different types of septal deviation may have distinct effects on nasal functional outcomes, sleep quality, and anxiety levels. The septoplasty technique improves nasal functional results, sleep quality, and anxiety indices in all deviation forms.

In all deviation types, the septoplasty operation improved nasal functional results, sleep quality, and anxiety markers.

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A study on measuring distal mean nocturnal baseline impedance to evaluate isolated laryngopharyngeal reflux symptoms that reflect pathological reflux

Introduction: A significant amount of gastric content backflowing into the laryngopharynx is known as laryngopharynx reflux (LPR), which is an extraesophageal symptom of gastroesophageal reflux disease (GERD). The majority of patients have normal oesophageal mucosa, making it difficult to diagnose LPR, especially in those with isolated LPR symptoms (ILRPS) or without concurrent typical reflux symptoms (CTRS). This makes it difficult to diagnose LPR.¹ Using high-resolution impedance manometry, the oesophageal epithelial barrier function is measured by mean nocturnal baseline impedance (MNBI), which can be used to diagnose and predict the effectiveness of treatment for gastroesophageal reflux disease (GERD). However, its application to laryngopharyngeal reflux (LPR) has received minimal research.²

The purpose of this study was to assess whether individuals with non-erosive or low-grade esophagitis who had ILPRS could predict pathological esophagogastric reflux. Based on the two separate phenotypes, CTRS and ILPRS, MNBI values were compared between individuals with and without pathological oesophageal-pharyngeal reflux in both the distal and proximal oesophagus.

Methods: A total of 157 patients with substantial laryngopharyngeal reflux symptoms and non-erosive or low-grade esophagitis were included in this cross-sectional study. Patients were split into two groups: ILPRS (n = 94) and CTRS (n = 63). Healthy controls were asymptomatic individuals without esophagitis (n = 25). The primary endpoint was measuring the lower oesophageal sphincter (LES), the proximal oesophagus, and the MNBI values at 3 cm and 5 cm above.

Results: Median MNBI values at 3 cm above LES in the CTRS group were considerably lower in those with pH (+) compared to those with pH (-) and healthy controls ($P < 0.0001$). Significant variations between pH (+) and pH (-) were also observed in the ILPRS group at 3 cm and 5 cm above LES, but to a lesser extent. At the proximal oesophagus, however, there were no variations between the groups. Additionally, there were no variations in the MNBI values between people in the CTRS and ILPRS groups with pH (-) and healthy controls at 3 cm and 5 cm. For the diagnosis of pH (+), ROC analysis for the ILRPS group showed AUC of 0.75 and 0.80 when compared to the pH (-) group and healthy controls, respectively. When compared to the pH (-) group and to healthy controls, the sensitivity and specificity were 0.65 and 0.71, respectively (Table 1).



Comparison of MNBI between pH (+) and control groups	AUC	Cut-point	Sensitivity	Specificity	Relative risk (95% CI)
Patients pH (+) vs pH (-)					
CTRS ^a + ILPRS ^b	0.77	2059	0.72	0.71	6.3 (3.0-13.1)
CTRS ^a	0.81	1864	0.78	0.78	12.4 (3.6-42.8)
ILPRS ^b	0.75	2059	0.65	0.71	15.0 (3.3-68.1)
Patients pH (+) vs healthy controls					
CTRS ^a + ILPRS ^b	0.83	2065	0.72	0.88	19.1 (5.0-73.2)
CTRS ^a	0.87	2038	0.83	0.88	34.8 (6.9-175.6)
ILPRS ^b	0.80	2065	0.65	0.88	13.3 (3.2-54.8)

^aConcomitant typical reflux syndrome (CTRS) is defined as regurgitation or heartburn at least twice a week with mild symptom, or once a week with moderate/severe symptom.
^bIsolated laryngopharyngeal reflux symptoms (ILPRS) is defined as patients with laryngopharynx reflux (LPR) without CTRS.
 MNBI, Mean nocturnal baseline impedance; AUC, area under the ROC curve.
 Best cutoff points for MNBI at 3 cm above the LES were based on maximal Youden index.

Table 1 shows the diagnostic accuracy of the mean nocturnal baseline impedance for various phenotypes of laryngopharyngeal reflux.

Discussion: Patients with pH+ had significantly lower median MNBI values than those with pH- in the distal but not proximal oesophagus. Between any pH - subgroups and healthy controls, there are no appreciable variations in any MNBI.¹ Similar to Kurylo CM, et al.'s study, it was found that patients with suspected LPR compared to healthy controls and subjects with positive MII-pH studies compared to subjects with negative MII-pH studies had considerably lower distal oesophageal MNBI. MNBI had no significant associations in the hypopharynx or proximal oesophagus.²

According to Ribolsi et al. study patients with suspected LPR and abnormal MNBI in the distal oesophagus may have a 71% sensitivity and 57% specificity for predicting PPI response.³ This study indicated that predicting pathological oesophageal-pharyngeal reflux had a sensitivity of 72% and a specificity of 71% and 88% when compared to patients with pH (-) and healthy controls, respectively.¹

Conclusion: The current study concludes that, in both the CTRS and ILPRS groups of individuals with suspected LPR, the distal oesophageal MNBI measurement is useful in the prediction of pathological oesophageal-pharyngeal reflux.

In patients with suspected laryngopharyngeal reflux (LPR), distal oesophageal mean nocturnal baseline impedance (MNBI) assessment is useful in the prediction of pathological esophagogastric reflux.



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Infectious Mononucleosis Tonsillitis: A Rare Case Report

Introduction: Hemorrhagic tonsillitis is frequently linked to acute or chronic tonsillitis, but it can also be linked to a number of other illnesses, including peri-tonsillar or parapharyngeal abscesses, necrotizing fasciitis, and infectious mononucleosis (IM). A tonsillar haemorrhage that lasts continuously for more than an hour or results in a blood loss of more than 250 ml, regardless of how long the bleeding lasts, is referred to as spontaneous hemorrhagic tonsillitis (SHT).¹ Tonsillitis, lymphadenopathy, and sore throat are the most typical symptoms of infectious mononucleosis (IM), though there are many others. Due to oedema of the epiglottis, pharynx, or uvula, it has been documented in the literature to be associated with upper airway obstruction. Rarely, the symptoms may be mistaken for supraglottitis, an emergency of the upper airway requiring prompt attention from an otolaryngologist in some patients. These peculiar symptoms should make it more likely that the lingual tonsils are involved in IM patients. The initial course of treatment should concentrate on stabilising upper airway symptoms before moving on to the IM management plan.² This case report presents a rare instance of hemorrhagic tonsillitis caused by infectious mononucleosis (IM).

Case presentation: A 19-year-old male patient with no major prior medical history presented with a 10-day history of a worsening sore throat, recurring fevers, lethargy, and dysphagia with meals and drinks, as well as a 3-day history of epistaxis and hemoptysis. The patient first showed up at a college clinic, where tests for COVID-19 and Group A Strep were negative. Patient received conservative treatment, including ibuprofen and Tylenol, but his symptoms did not get any better. The patient underwent another evaluation one week later and was found to have Epstein-Barr virus (EBV) and rhinovirus. Decadron was used to treat him, but because his symptoms persisted, he was later admitted to the emergency room.



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The patient was found to have tachycardia and a fever. Lab results showed increased liver function tests, leukocytes, erythrocyte sedimentation rate, C-reactive protein, and hyponatremia. Negative results from blood cultures. During the physical examination, a "hot potato" voice and bilaterally swollen, edematous, and erythematous tonsils (grade 3+) were also noticed. It was possible to observe that both tonsils had a dry blood coating and no exudates. The tonsils of the palatine region have been found to be surrounded by significant volumes of air and hypo-attenuating rim-enhancing fluid on computed tomography (CT) imaging of the neck (Figure 1). There was no additional soft-tissue emphysema in the neck, only diffuse bilateral cervical lymphadenopathy.

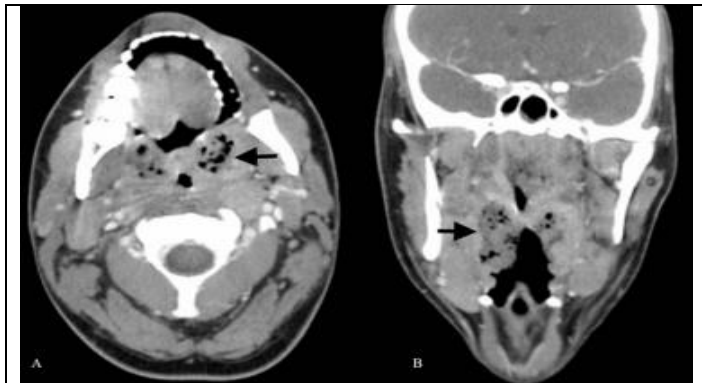


FIGURE 1: Soft tissue emphysema has been found on a head CT in the tonsillar region. Views in the axial (A) and coronal (B) views

Flexible nasolaryngoscopy revealed irritated nasal and pharyngeal mucosa with dried blood but no visible nasal or oropharyngeal cause of bleeding except from the tonsils. EBV was identified in the patient's blood test, confirming an IM infection. On CT imaging, the oropharyngeal bleeding and the subcutaneous emphysema around the tonsils appeared to be connected to a raging IM infection that ultimately caused hemorrhagic tonsillitis. Decadron 8 mg and 900 mg of clindamycin were administered intravenously for 24 hours during the course of the treatment, and the patient was closely observed by a clinician for any worsening of the respiratory distress or infection. On the tenth day of hospitalisation, the patient was discharged with a seven-day prescription of oral clindamycin.

Discussion: In this study, CT imaging of the neck showed substantial volumes of air and hypo-attenuating fluid collections within the palatine tonsils that extended superiorly to the nasopharynx. The patient tested positive for Epstein-Barr virus (EBV) and rhinovirus. The patient was prescribed Decadron 8 mg and 900 mg of intravenous Clindamycin after being diagnosed with hemorrhagic tonsillitis.¹

In the study of Amadei EM et al., cervical CT images revealed a left parapharyngeal abscess and diffuse cervical lymph node fusion. Blood tests on the patient revealed IgM antibodies against the EBV viral capsid antigen (VCA). A bilateral pericapsular tonsillectomy with drainage of the considerable purulent collection from the lower pole of the left tonsillar lodge was performed 2 days later. Meropenem plus clindamycin antibiotic therapy was prescribed after receiving advice on infectious diseases.³



Conclusion: Spontaneous hemorrhagic tonsillitis is a frequent consequence of acute and chronic tonsillitis. Early diagnosis serves a vital role in the management of SHT.

Hemorrhagic tonsillitis is an unusual and potentially fatal illness that requires early diagnosis and treatment

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