

Dear Doctor,

Greetings from Micro Labs limited. We are happy to bring you **“ENT BB Connection”** which contains latest and interesting news.

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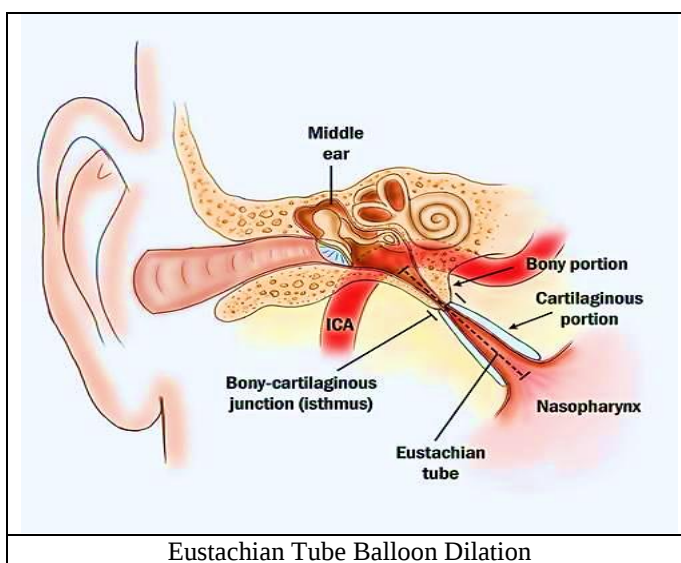
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Best Regards,

Medical Team, Micro Lab

A study on evaluating the clinical indicators of symptom improvement after Eustachian Tube Balloon Dilation

Introduction: Eustachian tube dysfunction (ETD) is a common (4.6%) illness in the United States that causes ear fullness, crackling, and popping sounds. The diagnostic criteria for ETD are not clearly established, despite the fact that it accounts for nearly 2 million medical visits each year. The Eustachian Tube Dysfunction Questionnaire-7 (ETDQ-7) was released in 2012 as a validated scoring instrument to evaluate clinical symptoms and therapeutic effects in patients with suspected ETD.¹ Recently validated, the seven-item Eustachian Tube Dysfunction Questionnaire (ETDQ-7), which comprises seven questions with scores ranging from 1 to 7, exhibits excellent discrimination for ETD patients. A score of ≥ 14.5 has been reported to have 100% sensitivity and 100% specificity for ETD, even though the maximum total score is 49.²



The purpose of this study was to investigate the clinical determinants of therapy response to Eustachian Tube Balloon Dilation (ETBD) as assessed by changes in ETDQ-7 scores.

Methods: A total of 113 patients who underwent ETBD and completed the ETDQ-7 both pre- and post-operatively were included in this retrospective analysis. The main dependent variable of concern was the change in the ETDQ-7 score, a validated tool for evaluating ETBD symptoms and treatment effects. Normalisation, attainment of the minimum clinically relevant difference (MCID), and quantitative score improvement were three outcome variables that were derived to describe the change in ETDQ-7 score between pre- and post-ETBD. The following factors were also taken into consideration: the pre-operative ETDQ-7 score, the kind of tympanogram, chronic otitis media, chronic rhinosinusitis (CRS), deviated septum, inferior turbinate hypertrophy, allergic rhinitis, and rhinorrhea. Age, sex, ethnicity, previous ear or sinus surgery, and follow-up time were all taken into account in the models.

Results: All patients had preoperative ETDQ-7 scores above 2.1, and 51% of them were female. 77% of patients had reached MCID, and 37% had normalised after an average of 13 months of follow-up. According to multivariable linear regression, a higher ETDQ-7 pre-operative score was independently associated with greater quantitative ETDQ-7 score improvement from pre- to post-ETBD (Figure 1). In particular, there was a 0.6-point improvement in the ETDQ-7 score from pre- to post-ETBD for every 1 point higher than the pre-operative ETDQ-7 score. Greater ETDQ-7 score improvement and better chances of reaching MCID were linked to higher pre-operative ETDQ-7 scores. A history of CRS enhanced the possibility of attaining MCID, while a history of chronic otitis media increased the likelihood of ETDQ-7 normalisation.

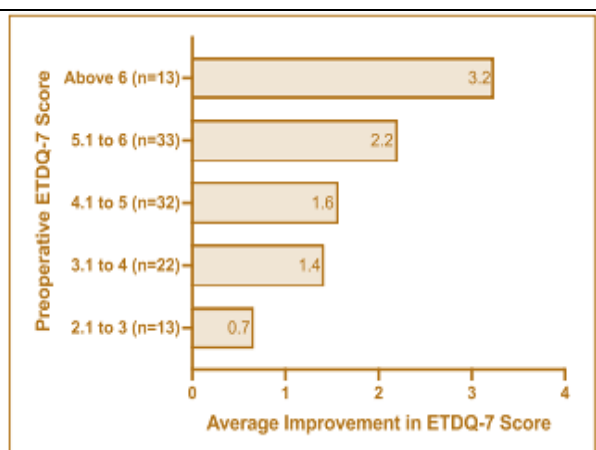


Figure 1 shows the relationship between the pre-operative ETDQ-7 score and the quantitative increase from the pre- to post-ETBD.

Discussion: According to the Meyer TA, et al. study, patients who received ETBD had an average pre-operative ETDQ-7 score of 4.6 and a post-operative ETDQ-7 score of 2.1.³ The average pre-operative ETDQ-7 score in this study is 4.7, which is comparable with the baseline value. The average post-operative ETDQ-7 score is 2.9, which is higher than the average follow-up ETDQ-7 score of 2.1 previously reported.¹

According to the current study, patients with CRS and ETD are more likely than those with ETD without CRS to observe significant improvements in their ETDQ-7 score after having their condition treated. Therefore, for patients with both CRS and ETD, ETBD may be an appropriate therapy option.¹ Similarly, chen T. et al.'s study involving 1336 consecutive patients revealed that functional endoscopic sinus surgery (FESS) performed on patients with both CRS and ETD improved their ETDQ-7 scores similarly to ETBD performed on patients with ETD alone.⁴

Conclusion: This study concludes that ETBD was very successful in treating patients whose pre-operative ETDQ-7 score was higher than 2.1. A higher pre-operative ETDQ-7 score, CRS, and chronic otitis media all indicated a better prognosis for symptomatic improvement with ETBD. These criteria may be crucial to consider when counselling potential candidates for this treatment.

Eustachian Tube Balloon Dilation (ETBD) resulted in a significant reduction of symptoms as measured by the Eustachian Tube Dysfunction Questionnaire-7 (ETDQ-7), with nearly 80% of patients reaching the minimum clinically important difference (MCID) in ETDQ-7 scores.

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A study on comparing nasal functional outcomes, sleep quality, and anxiety parameters after septoplasty in patients with various septum deviation types

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

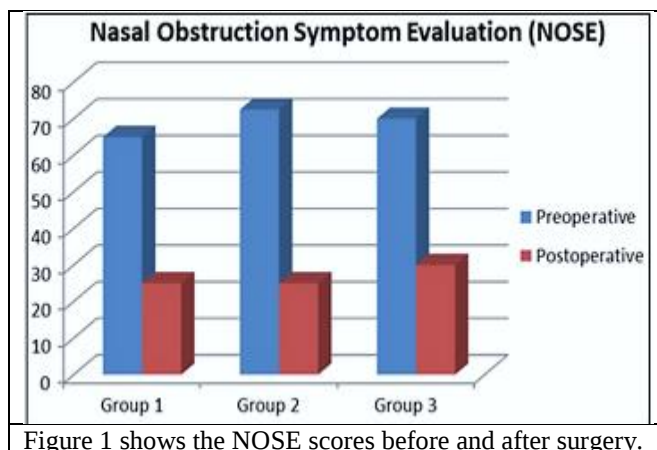


Figure 1 shows the NOSE scores before and after surgery.

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 assessing the isolated laryngopharyngeal reflux symptoms that predict pathological reflux by distal mean nocturnal baseline impedance

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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A rare case of rhinoscleroma with bilateral nasal polypi

Introduction: Rhinoscleroma (RS) is an uncommon chronic granulomatous infection that should be examined in patients from endemic countries if they have nasal polyps that considerably adhere to the nasal septum while sparing the sinuses. Usually, there is no specificity in the presentation because of its common clinical appearance that resembles chronic rhinitis.¹ Rhinoscleroma primarily affects the nasal cavity (95–98%), larynx (15–40%), nasopharynx (18–43%), trachea (12%), and bronchi (2–7%), although other unusual localizations have also been reported in addition to those listed above. Histopathologic or microbiologic examinations, which are presently the gold standard for diagnosis, are used to confirm the diagnosis. Antibiotic medication and, in some situations, surgical intervention are used to treat the condition.² In this case, a female patient presented with rhinoscleroma and bilateral nasal polyps.

Case presentation: A 26-year-old woman was admitted to the hospital with a 3-year history of increasing bilateral nasal blockage and foetid rhinorrhea. The patient had bilateral fleshy polypoid nasal masses that were clogging her nasal passageways, as observed by physical examination (Fig. 1). A normal oropharyngeal and laryngeal examination revealed no visible nasal abnormalities. These results supported the clinical diagnosis of nasal polyposis. Computer tomography (CT) scan showed that the paranasal sinuses and nasal cavities both had substantial soft tissue densities but were uninvolved. The nasal tumours were found to be thick, originating from and adhering to the nasal septum on both sides after endoscopic removal. There were no illnesses in the middle meatuses. For histopathology, culture, and sensitivity tests, a biopsy was performed.

Histological analysis revealed a significant, foamy histiocytic and lymphoplasmacytic infiltration. Following the procedure, nasal irrigations, frequent crust removal, and ciprofloxacin hydrochloride were continuously administered. Figure 2 showed no disease progression at 6 months.

Discussion: The presenting characteristics and imaging modalities allow for a preliminary diagnosis of RS, but a histological study continues to be the gold standard for a final, conclusive diagnosis. Only the granulomatous phase exhibits the characteristic histological alterations of RS. These include the pathognomonic big Mikulicz cells, Russell bodies, and abundant infiltration of lymphocytes, plasma cells, and Klebsiella bacilli, as well as foamy macrophages with many cytoplasmic vacuoles. Mikulicz cells are least prevalent during the second proliferative phase and sparse or non-existent during the first catarrhal and final sclerotic stages. In this case, a histologic investigation revealed a significant lymphoplasmacytic and foamy histiocytic infiltration.¹



Figure 1 shows an anterior rhinoscopy with fleshy nasal polyps.

Tanase I, et al.'s study histological examination revealed presences of Mikulicz cells and Russell bodies as well as granulomatous inflammation and big foamy macrophages.²

Ndiaye M, et al.'s research showed that biopsy samples that underwent histological analysis revealed rhinoscleroma, which is characterised by ulcerated squamous mucous replaced by polymorphous granulation tissue. Mikulicz cells are found inside the chorion.³



Figure 2. Endoscopic view of an excision six months after surgery showing an atrophic inferior turbinate but no sign of polypoid tumours.

Conclusion: Early detection and treatment of rhinoscleroma are required to prevent the disease's progressive and fatal consequences. The detection of Mikulicz cells is the primary basis for all diagnostic methods to confirm rhinoscleroma.

The presenting symptoms and imaging modalities contribute to the presumptive diagnosis of rhinoscleroma (RS), but histological investigation is still the gold standard for a final, definite diagnosis.

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