



ENT NEWSBUZZ

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Dear Doctor,

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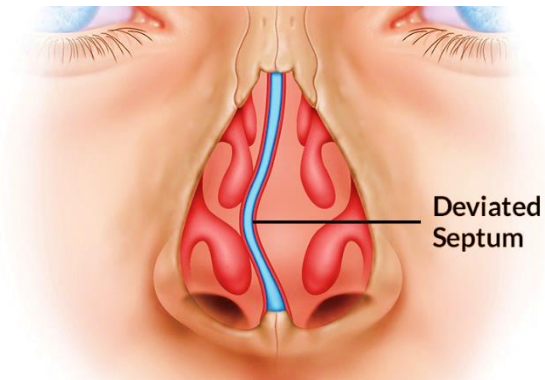
Best Regards,

Medical Team, Micro Labs Ltd



A study evaluating the effect of nasal septum deviation on choroidal thickness

Introduction: Nasal congestion is a common symptom experienced by otolaryngologists and primary care physicians in clinical practise, and it can be caused by a range of reasons, including anatomical, physiological, and pathological. One of the most frequent reasons for obstruction of the upper airway is nasal septal deviation. Due to alveolar hypoventilation, the prolonged upper airway obstruction that results from this syndrome can cause chronic hypoxia or hypercarbia. The blockage may be persistent and severe and may cause compensatory inferior turbinate hypertrophy on the opposite side.



This can enhance the surface area and blood supply of the inferior turbinate.¹ The posterior ciliary arteries supply the vascularized choroid, which receives around 90% of the total blood flow to the eye. The main source of oxygen and nutrients for the outer retina is the choroid's vasculature. The choroidal blood flow has the potential to cool and warm the retina. Being a vascular structure, the choroid is susceptible to systemic conditions like diabetes, chronic heart failure, and high blood pressure.² This study aimed to assess the connection between nasal obstruction and choroidal thickness.

Methods: In this prospective study, 144 patients diagnosed with nasal septum deviation and 100 healthy participants were involved. The patients were split into two groups, Group 1 and Group 2, with Group 1 consisting of 69 patients with a nasal septum deviation to the right and Group 2 consisting of 75 patients with a nasal septum deviation to the left, and 100 healthy participants in the control group. All individuals underwent thorough ophthalmological exams, and choroidal thickness was assessed using spectral domain optical coherence tomography.

Results: Among the 69 patients in Group 1, 34 were males and 35 were females. In Group 2, 38 were males and 37 were females. In the control group, the majority were healthy females compared to healthy males. Measurements of the choroidal thickness of the patient's in



Group1 showed that the choroidal thickness increased in all regions of the eye that were contralateral to the deviation side (left), and intraocular pressure (IOP) was increased compared to the eye that was on the deviation side (right) and the control group at a statistically significant level. In comparison to the deviation side (left) and the control group, Group 2 had larger choroidal thickness measures in all eye locations that were contralateral to the deviation side (right). (Table. 1)

Ocular Parameters	Right Eye	Left Eye	Control group	P value
Intraocular pressure (IOP)	15.69±1.355	13.55±1.266	13.34±1.719	0.000
Central corneal thickness (CCT)	532.83±22.450	533.51±24.017	532.68±21.480	0.866
Axial length (AL)	22.96±0.979	23.00±1.027	23.00±1.025	0.783
Visual acuity (VA)	9.76±0.489	9.80±0.465	9.79±0.478	0.602
Foveal center (FC)	368.19±71.163	336.63±66.751	338.77±59.183	0.005

Table 1: Measurements of the Group 2 patients' choroidal thickness and ocular characteristics

Discussion: In this study, the intraocular pressure (IOP) was greater in patients with nasal septum deviation than in the control group due to increased choroidal thickness in all areas of the eye on the side (right or left) opposite the deviation. Similar to the Sahin E. et al. study revealed a strong association between choroid thickness measures taken before and after septoplasty in individuals with nasal septum deviation. Choroid thickness considerably increased compared to preoperative values following septoplasty surgery at 3 months.³

Conclusion: This study concluded that individuals with a nasal septum deviation had greater choroidal thickness and IOP values in the eye across the deviation.

A choroidal layer examination and IOP measurements are recommended in patients with nasal septum deviation

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A study on postoperative assessment of the effects of supratubal resection and bone obliteration tympanoplasty

Introduction: The most frequent cause of the development of middle ear cholesteatoma (Skin cyst in the middle ear and mastoid bone in the skull) is the development of inverted bags in the Shrapnell's membrane, which is brought on by negative pressure in the superior tympanic membrane. The following are the mechanisms for controlling middle ear pressure: (1) the gas reserve buffer mechanism from the mastoid cavity to the tympanic cavity; (2) the Eustachian tube ventilation regulation mechanism; (3) the respiratory regulation mechanism from the middle ear mucosa; and (4) the neural regulation mechanism. The first two of the four elements mentioned above are especially significant.¹ The classification based on cholesteatoma size, ossicle condition, and the occurrence of comorbidities intended to create an ascending scale that corresponded to clinical relevance. Every modification in the categorization of cholesteatomas presents a challenge for re-examining risks, audiological improvements, or surgical techniques.² This study's objective is to assess and contrast the recurrence and residual cholesteatoma rates of the CWU-SRO (supratubal recess opened), CWU-BOT (cholesteatoma in canal wall up-bone obliteration tympanoplasty), and simple CWU mastectomy procedures. The infection rate and hearing result for each of the three procedures are then assessed.

Methods: This postoperative study comprised 352 patients who had middle ear cholesteatomas and had undergone a temporal bone ultrahigh-resolution computed tomography scan before surgery. A retraction pocket discovered during a normal semi-annual otoscopy follow-up was considered a recurrent cholesteatoma. The presence of keratinized epithelium in the middle ear, particularly around the Shrapnell's membrane or in the tympanum and attic, on the initial CT scan following surgery was referred to as residual cholesteatoma. The superior and posterior tympanic recesses, as well as the supratubal recess, were opened in various surgery groups. The shape of the Eustachian tube and the supratubal recess were also examined. (CWU-SRO group, CWU-BOT group, and CWU group)



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Results: The STAMCO method is used to categorise recurring cholesteatoma site involvement after a follow-up of five years. The recurrence rate for canal wall up with supratubal recess opened was 6.6% (7/106), for canal wall up with bone obliteration tympanoplasty it was 10.9% (12/101), and for canal wall up with canal wall up it was 19.31% (28/145). Figure 1 displays the total cholesteatoma recurrence rates. The rate of postoperative infection was 5.7% in the group receiving a simple canal wall up, 10.89% in the group receiving a simple canal wall up with bone obliteration tympanoplasty, and 7.59% in the group receiving a simple canal wall up with a supratubal recess opening. In the postoperative groups with supratubal recess opening, simple canal wall up, and canal wall up with bone obliteration tympanoplasty, the postoperative median air conduction was raised by 8 dB, 1 dB, and 6 dB, respectively.

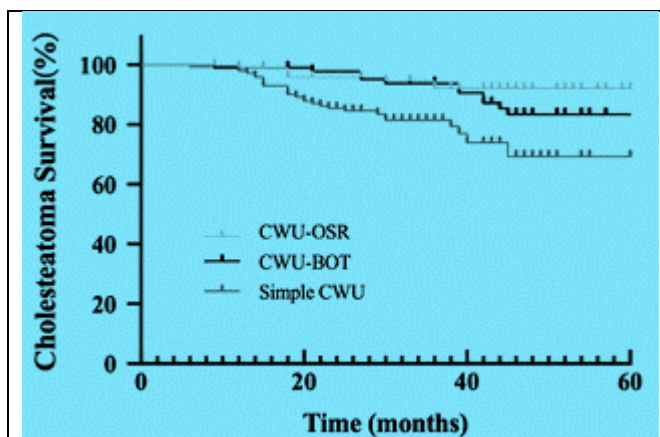


Figure 1. Survival curve for all surgical methods in patients of total recurrent cholesteatoma.

Discussion: In this study, the canal wall-up procedure had the lowest recurrence rate of 6.6% (7/106) and the greatest recurrence rate of 19.31% (28/145) for canal wall-up-supratubal recess opening. According to Pietraszek M. et al.'s research, the external ear canal alone was the only entry point for the cholesteatoma that showed the greatest risk of recurrence after removal. After a closed tympanoplasty (canal wall up, CWU), it was less prevalent, and after an open tympanoplasty (canal wall down, CWD), it was even less common. Patients who had surgery with bone obliteration tympanoplasty (BOT), which obliterates the mastoid process, also experienced very positive outcomes.³

Conclusion: This study concludes that opening the supratubal recess to maintain the attic's patency increases gas exchange between the mastoid process and the middle ear and lowers the risk of cholesteatoma recurrence.

The recurrence rate and infection rate of cholesteatoma in the canal wall-up supratubal recess opened group (CWU-SOR) are lower than those of the cholesteatoma in the canal wall-up bone obliteration tympanoplasty group (CWU-BOT) and the cholesteatoma in the canal wall-up group (CWU).



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Evaluation of RSI and RFS scores to identify reflux-related chronic laryngitis from other causes

Introduction: Chronic laryngopharyngitis is commonly associated with upper respiratory difficulties such as a sore throat, cough, throat clearing, trouble swallowing, and hoarseness. It might be brought on by a number of allergic, inflammatory, or infectious reasons. Obstructive sleep apnea (OSA) and snoring are both conditions that are more common in obese people. The upper airway collapsing and causing friction between the pharynx, palate, tongue, and larynx mucosa can potentially result in mucosal damage that mimics an inflammatory or infectious occurrence. Obesity affects the immune system and promotes conditions like gastroesophageal reflux disease (GERD) and its supraesophageal symptoms (laryngopharyngeal reflux, or LPR).¹ Supraesophageal reflux (SERD), also known as laryngopharyngeal reflux (LPR), is the term used to describe the additional oesophageal signs and symptoms that can result from gastroesophageal reflux disease (GERD). The upper oesophageal sphincter's proximity to the larynx and pharynx allows for the reflux of both acidic and nonacidic components from the stomach. Asthma, vocal cord dysfunction, coughing, postnasal discharge, and sinusitis are upper and lower respiratory symptoms and illnesses that have been linked to LPR.² The aim of this study was to determine if the Reflux Symptom Index (RFI) and the Reflux Finding Score (RFC) are useful in the differential diagnosis of patients with several forms of chronic laryngopharyngitis.

Methods: In this prospective study, a total of 102 chronic laryngopharyngitis patients were included. Patients were divided into 3 groups: Group A: 37 patients with allergic rhinitis; Group B: 22 patients with obstructive sleep apnea (OSA); and Group C: 43 patients with laryngopharyngeal reflux (LPR). The diagnosis of chronic laryngitis was made on the basis of



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suggestive symptoms like sore throat, scratchy throat, hoarseness, throat clearing, postnasal drip, thick mucus in the throat without fever, malaise, or other systemic symptoms, lasting for more than 12 weeks, and videolaryngoscopic signs ($RSI \geq 13$ and $RFS \geq 7$). A positive serum RAST test was used to identify allergies, a positive polysomnography to identify OSA, and a positive impedance-PH test to identify LPR. The ability of the RSI and RFS scores to distinguish across groups was tested using discriminant function analysis.

Results: The mean RSI scores were 16.91 ± 8.40 in the LPR group, 16.38 ± 9.18 in the allergy group, and 7.59 ± 8.81 in the OSA group. LPR group patients and respiratory allergies group had similar and significantly higher RSI scores compared to the OSA group ($p < 0.001$). (Figure.2) The mean RFS scores were 7.49 ± 2.72 for the allergy group, 10.23 ± 3.32 for the OSA group, and 10.65 ± 3.04 for the LPR group. LPR group patients and OSA group patients had similar and significantly higher RSI scores compared to the respiratory allergies group ($p < 0.001$). (Figure.3) Combining all scores increased the probability of detecting OSA (72.73%) and allergies (64.86%), but decreased the probability of diagnosing LPR (51.16%).

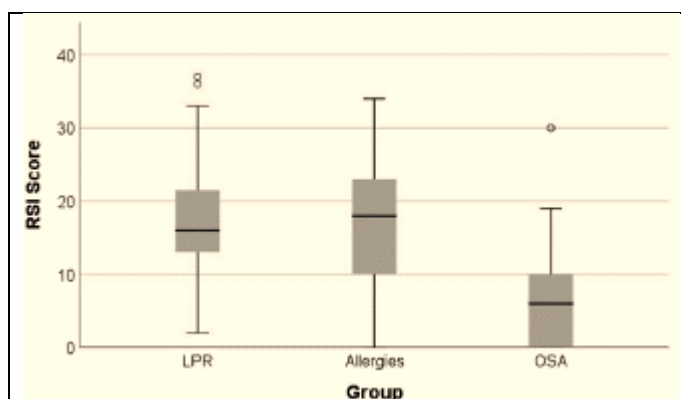


Figure.2: Box plot comparing RSI score between patients in the three sub-groups with chronic pharyngolaryngitis.

Discussion: When compared to patients with OSA, individuals with respiratory allergies and those with LPR in this study had similar and noticeably higher RSI values. According to research by Campanholo MD et al., the RSI score was not related to the severity of OSA. LPR was linked to older age, smoking, excessive daytime drowsiness, lower quality of life and sleep scores, and poorer questionnaire results.³

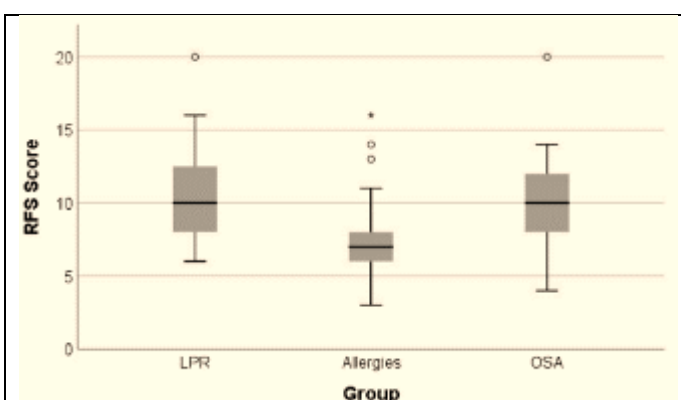


Figure.3: Box plot comparing RFS score between patients in the three sub-groups with chronic pharyngolaryngitis.



Conclusions: This study concludes that the RSI and RFS are not appropriate diagnostics for reflux laryngitis and are more likely to provide a false diagnosis if not utilised properly.

The Reflux Symptom Index and the Reflux Finding Score are less likely to identify reflux laryngitis and are more likely to lead to an incorrect diagnosis if not used properly.

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A rare case of septochoanal polyp on the concave side of the deviated nasal septum

Introduction: Nasal polyps that expand towards the choana are known as choanal polyps. They are typical paranasal sinus origins, such as the maxillary, ethmoid, and sphenoid sinuses, which are prevalent unilateral benign tumours. On the other side, the nasal septum is the source of the septochoanal polyp. Rare choanal polyps that originate from the nasal septum are known as septochoanal polyps. Nasal blockage, anosmia, rhinorrhea, and snoring are the symptoms. The main differential diagnoses to take into account while dealing with a septochoanal polyp are chordoma, angiofibroma, paraganglioma, teratoma, and papilloma.¹ Nasal polyps typically develop from the sinus mucosa and extend into the nasal cavity through the sinus ostia, making the nasal septum a relatively uncommon source of origin.² The patient in this case had diagnosed with a septochoanal polyp on the concave side of the deviated nasal septum.



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Case Presentation: In this case, a 32-year-old male patient was admitted to the hospital with complaints of a polyp in the right nasal cavity. The patient had a three-month right nasal blockage but no history of allergy disorders. An endoscopic examination identified a white-yellow mass that extended into the nasopharynx from the back of the nasal septum. (Figure.4A) A soft tissue mass that was attached to the right nasal septum was seen on a CT scan without any evidence of bone loss or sinus invasion. The patient diagnosed has a septochoanal polyp with a leftward deviation in the nasal septum.

Endoscopically removed the tumour, its base, and the surrounding healthy mucosa of the right septum. (Figure 4B). During the procedure, there was just a small amount of bleeding, and the tumour looked different from a typical inflammatory polyp based on its look.

A pathological examination revealed an atrophied stroma that was packed with fine collagen and had a modest infiltration of plasma cells or lymphocytes. The stroma included a few eosinophils. The entire tissue was coated in respiratory epithelium. After 3 weeks of postoperative recovery, there were no indications of cancer or dysplasia, and the lesion was replaced with healthy mucosa (Figure 4C).

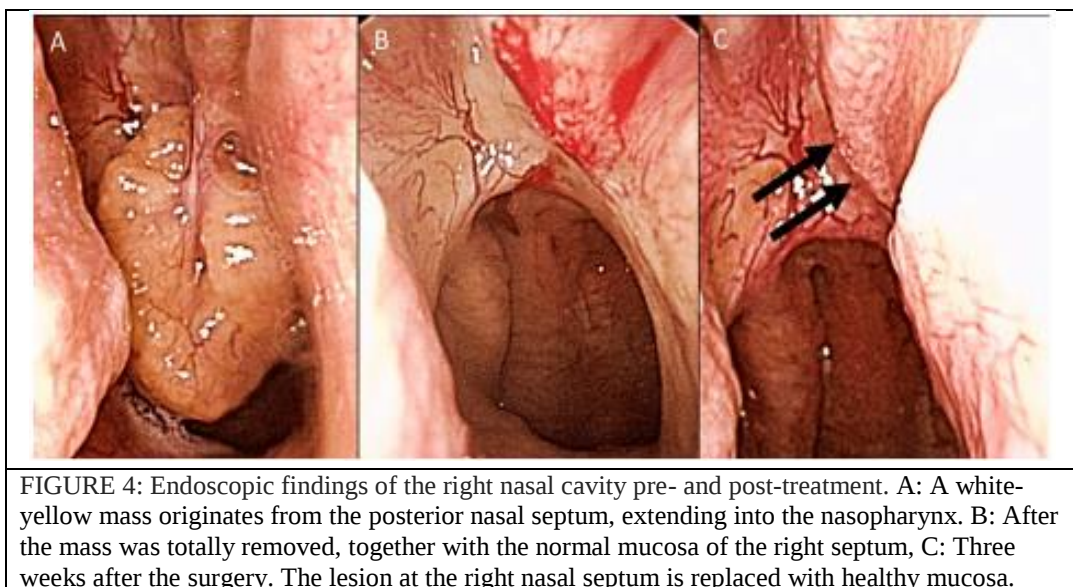


FIGURE 4: Endoscopic findings of the right nasal cavity pre- and post-treatment. A: A white-yellow mass originates from the posterior nasal septum, extending into the nasopharynx. B: After the mass was totally removed, together with the normal mucosa of the right septum, C: Three weeks after the surgery. The lesion at the right nasal septum is replaced with healthy mucosa.



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Discussion: In this research, a white-yellow tumour that originated from the posterior nasal septum and extended into the nasopharynx was surgically removed. The healthy mucosa is used to repair the right nasal septum after three weeks. According to research by Ertugrul S. et al., endoscopic sinus surgery is a successful procedure for both diagnosis and therapy. For the purpose of preventing recurrences, the unhealthy mucosa and the polyp must be removed.³

Conclusion: This study concludes that greater airflow on the concave side may have caused polyp development by inflaming the mucosa near the posterior nasal septum. After three weeks of surgery, the patient showed no symptoms of recurrence.

The formation of polyps may have been triggered by increased airflow on the concave side inflaming the mucosa close to the posterior nasal septum

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