ENT_BB CONNECTION

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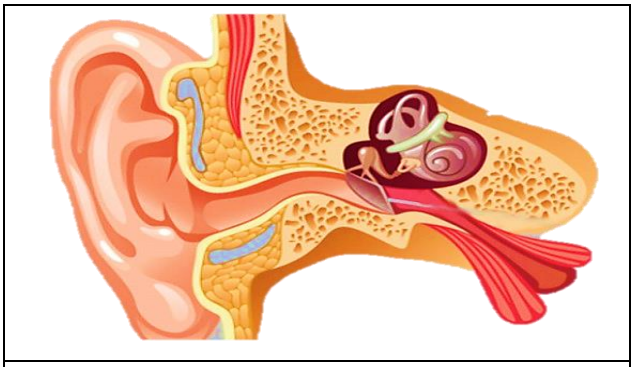
A Study on Assessing the Prognostic Factors for Hearing Outcomes in Patients with Idiopathic Sudden Sensorineural Hearing Loss

Introduction: Idiopathic sudden sensorineural hearing loss (ISSNHL) is generally understood to be a sensorineural hearing loss of 30 dB or more over at least three consecutive frequencies in fewer than three days. The incidence of ISSNHL is reported to be 5–20 per 100,000 cases that present to outpatient clinics for otological causes, with 2–3% being diagnosed with ISSNHL. Only 10% of patients can identify a precise cause, and the actual aetiology is still unclear. Idiopathic acute sensorineural hearing loss is a medical emergency that needs to be treated right away once the diagnosis is made.[1] Despite the disagreements over its medical administration, steroid medication is currently the most widely used treatment for ISSNHL. However, the high dose required for systemic therapy can lead to both immediate and long-term problems. Intratympanic steroid (ITS) therapy can treat an organ while avoiding the adverse effects of systemic corticosteroid therapy by giving substantial doses of medication directly via the mesotympanum over the membrane of the round window.[2] The purpose of this study was to identify and evaluate prognostic factors that could influence the hearing outcome in patients who have idiopathic acute sensorineural hearing loss following intratympanic steroid injection.



Idiopathic Sudden Sensorineural Hearing Loss

Methods: A total of 190 patients with idiopathic acute sensorineural hearing loss who had received intratympanic steroid injections were included in this retrospective analysis. The patient's age, the time between the onset of hearing loss and treatment, the initial level of hearing (hearing loss pre), the type of audiogram curve (up sloping, down sloping, and flat), the presence of vertigo, the presence of tinnitus, and diabetes will all be examined as prognostic factor variables.

Results: Clinical results show a cumulative recovery rate of 72.6% in all 3 categories after ITS (complete in 51 patients, partial in 60 patients, and mild in 27 patients). The rate of no recovery in moderate degree HL was associated with a high recovery rate (50%) compared to a rate of no recovery in profound hearing loss (HL) (21.2%) (P value < .001); profound HL had the highest percentage of non-recovery (30.8%); the type of audiogram curve had a significant impact on

recovery, especially the downsloping type (P value <.001); and the absence of vestibular symptoms was observed to affect recovery. A positive prognosis was found for patients with different preinjection audiogram curves and hearing grades, the absence of vestibular complaints, and no history of diabetes. According to the structural matrix (Table 1), which shows the relationship between each predictor variable and the discriminant function, the pre-Hl grade is the most useful in discriminating between recovery and non-recovery. A worse prognosis was linked to starting treatment more than 30 days after the onset of hearing loss.

Discussion: In the current analysis, diabetes, peripheral vertigo, a therapeutic delay of more than 30 days, and ISSNHL accompanied by deep HL were all linked with a poor prognosis. Age, gender, and the existence of tinnitus had no impact on the outcome.[2] A study by Perez Ferreira Neto A. et al. indicated that starting treatment after 14 days from the beginning of ISSNHL and having severe or profound hearing loss at the time of the first audiogram were independent risk factors linked to a worse prognosis for hearing recovery.[3] Age, baseline hearing level, vertigo, and hearing improvement on days 6-7 after treatment commencement were independent predictors of hearing recovery in ISSHL, according to a study by Shimanuki, M.N., et al.[4] According to Toroslu T. et al., the severity of the hearing loss, the length of time before therapy, and the type of audiogram were significant factors impacting the prognosis. Only ITS managed to avoid adverse outcomes and cut down on hospitalisations. The priority of treatment was thought to be ITS in the first two weeks, followed by hyperbaric oxygen.[1]

	Analysis of Case Processing and Test of Equality of Group Means			Structure Matrix*
	Wilks' Lambda	*F*	Significance	Recovery Function
Prehearing loss grade	0.851	32.793	.000	0.616
Prehearing loss average loss	0.887	23.851	.000	0.525
onset < 1 month	0.895	22.023	.000	0.505
Vertigo	0.900	20.981	.000	−0.493
Diabetes	0.927	14.879	.000	−0.415
Tinnitus	0.995	0.954	.330	−0.105
Prehearing loss PTA type	1.000	0.030	.864	0.018
Gender	1.000	0.001	.978	0.003
Age	1.000	0.000	.987	−0.002

PTA, pure tone audiometry.
* Correlations pooled within groups between discriminating variables and standardized canonical discriminant functions

Table 1. A Brief Description of Canonical Discriminant Function

Conclusion: The current study concluded that idiopathic abrupt sensorineural hearing loss, a late treatment plan of more than one month, vertigo, diabetes, and significant prehearing loss were all poor prognostic variables. Age, gender, and tinnitus did not affect the prognosis.

The presence of vertigo, diabetes, and significant prehearing loss were all poor predictive indicators for idiopathic sudden sensorineural hearing loss.

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1. Toroslu T, et al. Comparison of Different Treatment Methods for Idiopathic Sudden Sensorineural Hearing Loss. Turk Arch Otorhinolaryngol. 2018 Dec;56(4):226-232.
2. Askar AA, et al. Discriminant Analysis of the Prognostic Factors for Hearing Outcomes in Patients with Idiopathic Sudden Sensorineural Hearing Loss. The Journal of International Advanced Otology. 2023 May 1;19(3):162-8.
3. Perez Ferreira Neto A, et al. Clinical profile of patients with unilateral sudden sensorineural hearing loss: Correlation with hearing prognosis. Otolaryngology–Head and Neck Surgery. 2021 Oct;165(4):563-70.
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Evaluation of Clinical Efficacy in Patients with Chronic Rhinosinusitis, Nasal Polyps, and Clinical Manifestations of Obstructive Lung Disease

Introduction: Chronic rhinosinusitis with nasal polyps (CRSwNP) is an inflammatory condition that affects the paranasal sinuses and nasal cavity and is accompanied by persistent symptoms such as nasal congestion, rhinorrhea, loss of smell, face pain, headaches, and nasal polyps (NP). Interleukin (IL)-4 and IL-13, which are important and central drivers of type 2 inflammation in a number of disorders, are typically involved in type 2 inflammation in CRSwNP.[1] Dupilumab is a completely human monoclonal antibody that inhibits the common receptor components of interleukin-4 and -13, which are significant and central causes of type 2 inflammation. Dupilumab significantly improved both objective and patient-reported CRSwNP outcomes in the Phase 3 SINUS-24 and SINUS-52 investigations in patients with severe CRSwNP.[2] The goal of this post-hoc analysis was to evaluate clinical outcomes, clinical efficacy, and health-related quality of life (HRQoL) in a specific group of individuals from SINUS-24 and SINUS-52 who had these clinical characteristics of obstructive lung disease in order to better understand the probable role of targeting type 2 inflammation in patients with COPD.

Methods: Patients who met the eligibility requirements for the SINUS-24 and SINUS-52 studies were under the age of 18, had severe CRSwNP, and had either undergone sinonasal surgery or received systemic corticosteroids within the previous two years. In SINUS-24, patients were randomised 1:1 to receive subcutaneous (SC) dupilumab 300 mg or a placebo

every two weeks (q2w) for 24 weeks, and in SINUS-52, patients were randomised 1:1:1 to receive SC dupilumab 300 mg q2w for 52 weeks, SC dupilumab 300 mg q2w for 24 weeks followed by every four weeks for 52 weeks, or a placebo for the entire 52 weeks. The primary goal of this study was to examine the nasal polyp score (NPS) and the 22-item Sino Nasal Outcome Test (SNOT-22) to assess HRQoL in CRSwNP patients at baseline, 8, 16, and 24 weeks. At baseline, all patients had their pre-bronchodilator FEV1 and FEV1/FVC ratios evaluated. Patients with an asthma diagnosis also had those measurements done at 16 and 24 weeks.

Results: Asthma was present in 90 of the 131 patients who fulfilled the "broad" criteria across both investigations and in 74 of the 115 patients who satisfied the "narrow" criteria. In both the broad and narrow categories, dupilumab was superior to placebo in terms of CRSwNP outcomes and HRQoL. Dupilumab increased pre-bronchodilator FEV1 and FEV1/FVC ratios in the 90 patients who fulfilled the broad definition and had asthma at Week 16 and maintained them through Week 24. The "narrow" subgroup with asthma examinations at Weeks 16 and 24 experienced similar outcomes. The Least square (LS) mean differences for dupilumab vs placebo at Week 24 for NPS were -1.72 (-2.27, -1.16) (Figure 1) and for UPSIT were 9.25 (9.25, 9.25) in the broad definition subgroup. In patients with features of obstructive lung disease, mean SNOT-22 total scores also improved with dupilumab treatment.

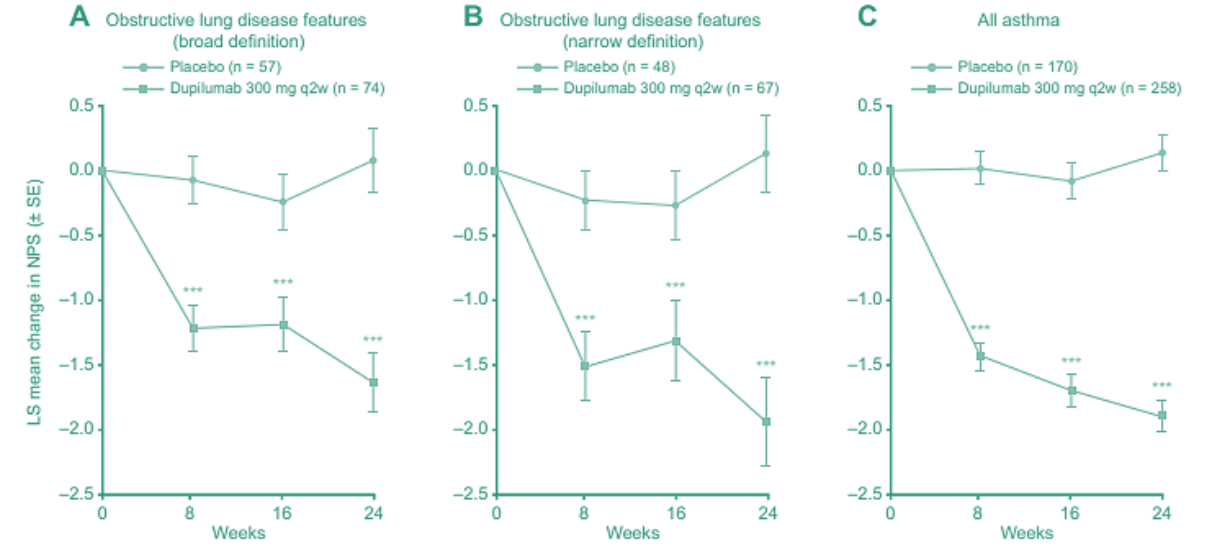

Figure 1: Dupilumab's impact on NPS in patients with CRSwNP and obstructive lung disease's clinical signs

Discussion: In the present investigation, dupilumab enhanced CRSwNP, HRQoL results, and lung function in patients with a history of asthma. In a group with COPD and signs of type 2 inflammation, dupilumab, a monoclonal antibody, provides encouraging evidence to move forward with effectiveness studies.[1] According to a study by Laidlaw T. et al., Dupilumab 300 mg every two days significantly improved the upper and lower airway outcomes measured by the forced expiratory volume in one second (L), the 6-item Asthma Control Questionnaire score, the 22-item Sino-Nasal Outcome Test score, the nasal peak inspiratory flow (L/minute), the endoscopic nasal polyp score, the patient-reported nasal congestion score, and the sinus Lund-Mackay CT score.[3]

Conclusion: The current study concluded that dupilumab improved CRSwNP and HRQoL outcomes in a group of individuals with CRSwNP and clinical symptoms of obstructive lung disease, and it also improved lung function in those with a history of asthma.

Dupilumab, a monoclonal antibody that reduces type 2 inflammation, provides encouraging results for further efficacy studies in a population with COPD and type 2 inflammation.

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1. Maspero JF, et al. Clinical Efficacy among Patients with Chronic Rhinosinusitis with Nasal Polyps and Clinical Features of Obstructive Lung Disease: Post Hoc Analysis of the Phase III SINUS-24 and SINUS-52 Studies. J Asthma Allergy. 2023 Mar 31; 16:333-342.
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A Study on Assessing the Incidence of Pharyngocutaneous Fistula After Total Laryngectomy

Introduction: Laryngeal squamous cell tumours are one of the most dangerous types of head and neck cancer. Total laryngectomy, one of the primary therapies for laryngeal cancer, can include side effects like wound infection, dysphagia, airway obstruction, chyle leak, and carotid artery rupture. Pharyngocutaneous fistula (PCF) is one of the most serious side effects of total laryngectomy.[1] Pharyngocutaneous fistula (PCF) is a dangerous and difficult consequence after total laryngectomy because it gives patients quite a bit of discomfort. Failure to seek care in a timely manner may cause the surgical incision to take longer to heal, damage postoperative functional recovery and quality of life, lengthen hospital stays, raise costs, and exacerbate patients' mental stress. It also has an impact on the patient's ability to swallow and speak.[2] The purpose of this study was to assess PCF incidence following complete laryngectomy and its contributing factors.

Methods: This retrospective study included 85 patients who had a total laryngectomy. According to the disease course recorded in the hospital record, the presence or absence of a pharyngocutaneous fistula for each patient was determined. The main goal of the study was to determine the patients' weight, anaemia status (Hb 12.5 g/dl), renal dysfunction status (GFR 90 mL/min/1.73 m^2), malnutrition status (Albumin 3.5 g/dl), and marginal involvement status. These data were taken from the patients' postoperative medical records.

Results: In this present study, the main closure was performed on 66 patients, while the flap closure was performed on 19 individuals. Patients who underwent flap closure had a greater incidence of PCF (15.8%) than patients who underwent primary closure (10.6%). Individuals with anaemia (15.2%) had higher rates of PCF than individuals with normal haemoglobin (7.7%). The prevalence of PCF was not statistically different between individuals with malnutrition (20%) and those without it (9.2%). PCF affected 11.8% of individuals, and the mean SD of the hospital stay was 32.40 ± 14.75 days, compared to 16.89 ± 7.05 days in patients without PCF (P = 0.009). The mean SD of the time it required for a fistula to develop was 7.4 ± 3.74 days. (Figure 1)

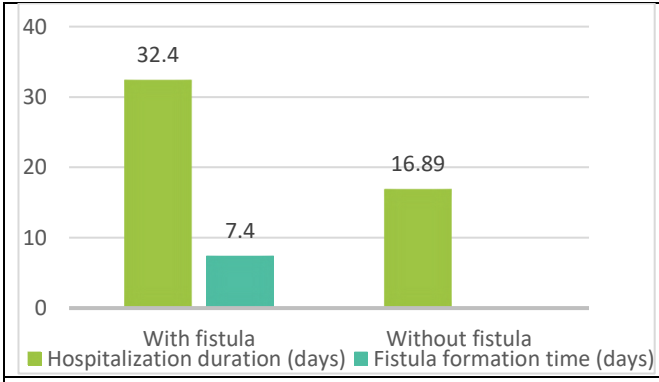

Figure 1: The average hospital stay and fistula development times (mean ± SD)

Discussion: The results of this investigation demonstrated that gender, age, anaemia, malnutrition, renal impairment, surgical margin, and radiation history were not related to PCFs. According to research by Wang, M. et al., PCF risk variables included age, smoking, COPD, CAD, T-stage, prior radiation, preoperative albumin, preoperative haemoglobin, tumour site, and mode of treatment.[2] According to a study by Maharani A. et al., there was no significant correlation between the development of pharyngocutaneous fistula complications and age, sex, previous smoking history, history of type 2 diabetes mellitus, histopathology, stage, tumour location, incision technique, preoperative haemoglobin level, or preoperative albumin levels.

Conclusion: This current study concludes that the incidence of PCF was not influenced by anaemia, malnutrition, renal dysfunction, surgical margin, history of radiation, pharyngeal closure, gender, or age.

Pharyngocutaneous fistula was not associated with gender, age, anaemia, malnutrition, renal impairment, surgical margin, or radiation history.

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2. Wang, M, et al. Risk factors of pharyngocutaneous fistula after total laryngectomy: a systematic review and meta-analysis. Eur Arch Otorhinolaryngol 277, 585–599 (2020).
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A rare case of adult vocal cord hemangioma

Introduction: Vascular tumours and vascular malformations are the two main classifications of vascular abnormalities according to the International Society for the Study of Vascular Abnormalities (ISSVA) methodology. Vascular tumours are characterised by endothelial cell hyperproliferation, often grow quickly, and are most often absent at birth. Vascular malformations, on the other hand, are not real neoplasms but rather localised anomalies of vascular morphogenesis brought on by dysfunction in embryogenesis and vasculogenesis.[1] Laryngeal hemangiomas are benign endothelial-derived vascular tumours that mainly come in adult and juvenile varieties. Adult hemangiomas are extremely uncommon, with very few cases documented in the literature to date. They are more common in men and take the histological form of cavernous hemangiomas. The epiglottis, aryepiglottic folds, arytenoids, and false and true vocal cords are the most often affected areas.[2] This case presents 71-year-old man with rare adult vocal cord hemangioma.

Case presentation: A 71-year-old man was admitted to the hospital with chief complaints of an upper respiratory infection for a month with blood-tinged sputum and hoarseness. A vegetative tumour was discovered via flexible endoscopy in the right vocal cord's anterior region (Figure 1). There was no airway obstruction, and the voice cords could move freely. After being impressed by the laryngeal hemangioma, surgical intervention was suggested and scheduled under a microscope. The Boyce-Jackson position was used to position the patient during surgery so that the vocal cords could be exposed to their best advantage. A microscope was used to examine the tumour before it was carefully wrapped with forceps and removed from the base with micro-scissors. The specimen's histopathological analysis confirmed a proliferation of crowded, dilated vasculature with noticeable congestion and localised inflammation.

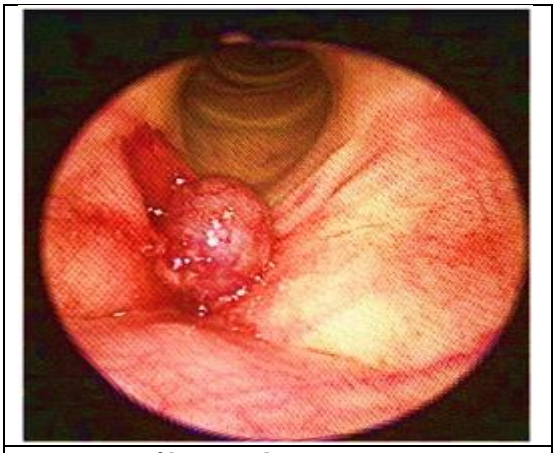

Figure 1. A fiberoptic laryngoscopic image showed a right vocal cord hemangioma

Patient diagnosed with cavernous hemangioma of the vocal cords. One week after the procedure, the incision appeared to be healing satisfactorily (Figure 3), and the patient denied having hemoptysis or coughing up blood-tinged sputum. The patient also mentioned that his voice was getting better.

Discussion: Patient in the current investigation complained of hoarseness, an upper respiratory tract infection, and sputum with a bloody tint. Based on the history, histological analysis, and use of a fibrotic laryngoscopic, an adult vocal hemangioma was confirmed. A microscope was used to examine the tumour before it was carefully grabbed with forceps and removed from the base with micro-scissors.[1] Similarly, the primary symptom of an adult vocal fold hemangioma is hoarseness, according to research by Laohakittikul C. Et al. Histopathological investigation confirms the definitive diagnosis of adult vocal fold hemangiomas, which is initially made based on the patient's medical history and laryngoscopic examination. Microlaryngoscopic surgical excision is the modality of choice for excision hemangioma, with satisfactory outcomes when it comes to the treatment of symptomatic vocal fold hemangioma.[3]

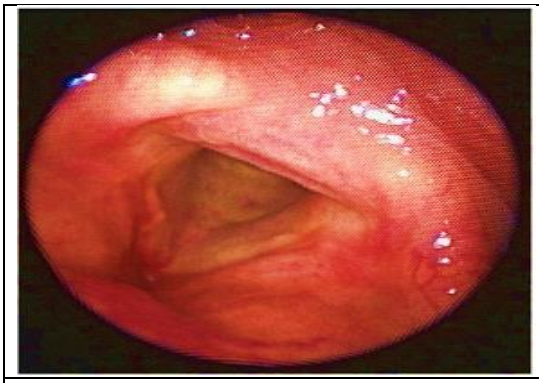

Figure 3. Vocal cords are visible in fiberoptic laryngoscopic imaging one week after surgery.

Conclusion: This present case concludes that using cold instruments to remove a small adult-type laryngeal hemangioma may be appropriate and safe without using costly or complicated equipment.

An adult vocal hemangioma was diagnosed based on the patient's history, histological examination, and fibrotic laryngoscopy examination.

References:

1. Wang SW, et al. The rare adult vocal cord hemangioma: A case report. Acta Oto-Laryngologica Case Reports. 2023 June 19;8(1):87-90.
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