



ENT NEWSBUZZ

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Dear Doctor,

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

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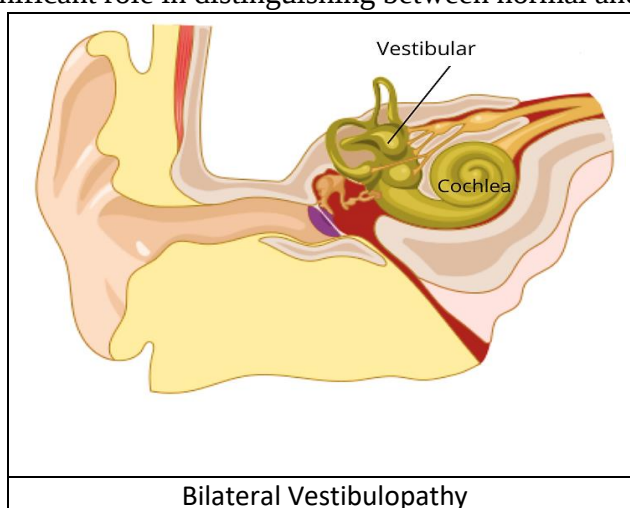
Best Regards,

Medical Team, Micro Labs Ltd



A study on evaluation of Accelerated Cognitive Decline Associated with Hearing Loss and Bilateral Vestibulopathy

Introduction: Sensory input may play a significant role in distinguishing between normal and abnormal cognitive ageing. The connection between hearing loss and cognitive decline in the elderly population has been well researched over the past few years. In research on bilateral vestibular loss (BVL) in both animals and people, cognitive abnormalities were also noted. Multitasking is challenging for people with BVL because they must maintain enhanced awareness to prevent falling. Patients with BVL experienced emotional, navigational, spatial memory, and spatial anxiety problems as a result of hippocampal atrophy. Syndromic hearing loss and non-syndromic hearing loss are two categories of hereditary hearing loss.¹ DeaFNess Autosomal Dominant 9 (DFNA9) is a non-syndromic dominant inherited disease. DFNA9 is brought on by a variety of mutations in the COCH gene, which codes for cochlin. Cochlin serves significant, albeit poorly understood, roles in immunological and architectural function and is expressed in the spiral ligament and spiral limbus of the inner ear. Cochlin is thought to be involved in the maintenance of the extracellular matrix of the inner ear as well as the control of the innate immune system.² This study's objective was to use the Repeatable Battery for the Assessment of Neuropsychological Status, Hearing Impaired Patients Version (RBANS-H) to evaluate the cognitive capacities of DFNA9 patients.



Methods: In this Cross-sectional study, 46 carriers of the pathogenic p.Pro51Ser variation in the COCH gene were examined, of whom 38 had BV according to the Bárány Society criteria. Age, gender, and educational attainment were all taken into account while matching up each control. Each subject underwent a hearing, vestibular, and cognitive assessment. The Repeatable Battery for the Assessment of Neuropsychological Status, Adjusted for the Hearing Impaired (RBANS-H), a cognitive test battery including subtests examining attention, language, visual-spatial-constructive, and immediate and delayed memory, was performed by all participants.



Results: Scores on each RBANS-H subscale were compared between groups. Scores on the Attention subscale, the Delayed Memory subscale, the Visuospatial/Constructive subscale, the Immediate Memory subscale, and the Total Scale varied considerably between groups, with DFNA9 patients scoring lower than control participants on each subscale. Overall, compared to their healthy matched controls, the DFNA9 patients showed significantly lower scores on the Immediate Memory subscale and lower Total Scale scores. The total sample was separated into two groups: < 55-year-olds and ≥55-year-olds. The Attention subscale scores and Total Scale scores of the DFNA9 group of individuals aged ≥55 years were considerably lower than those of the matched controls. (Figure 1) The cognition of DFNA9 patients aged <55 years no longer differed significantly from that of matched controls.

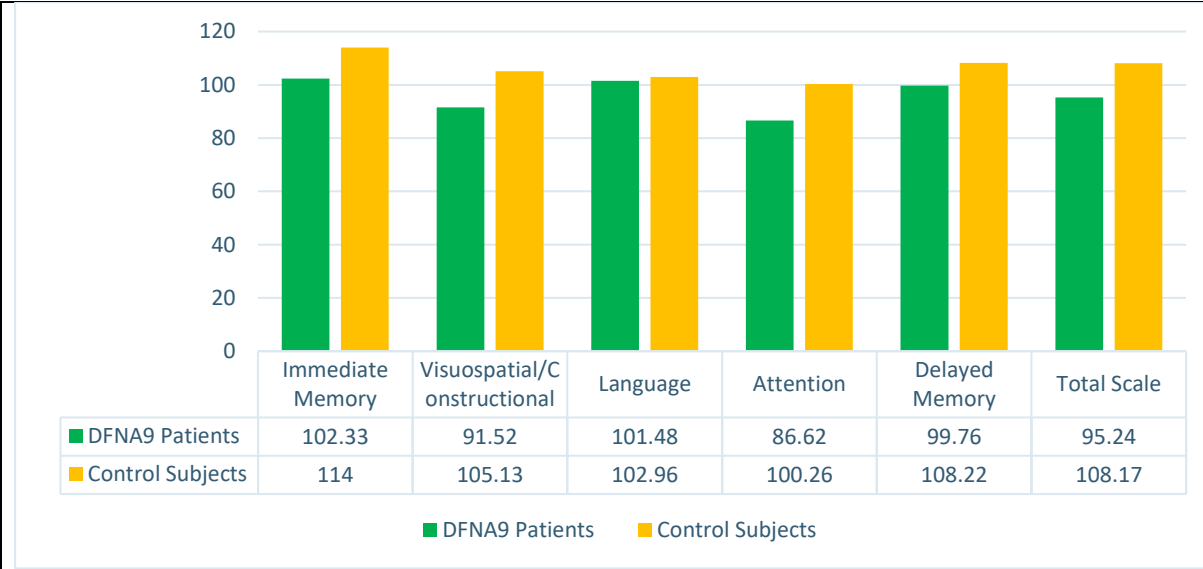


Figure 1 shows the scores for the RBANS-H Subscale for DFNA9 and control patients who were 55 years of age or older.

Discussion: In this current study, scores on the subscales of Immediate Memory, Visuospatial/Constructive Memory, Attention, Delayed Memory, and Total Scale varied considerably between groups, with DFNA9 patients scoring lower than control subjects on all subscales.² Comparatively, the findings of the study by Bosmans J. et al. revealed that participants with BV, as a whole, exhibited a clinically significant lower score on the RBANS-H total scale than participants without BV. The subdomains of immediate memory, visuospatial cognition, and attention showed the greatest reduction.³

Conclusion: This current study concludes that DFNA9 patients showed cognitive abnormalities when compared to their healthy matched controls. The scores on the Total Scale and Attention subscale for the DFNA9 group of individuals aged ≥55 years were considerably lower.



The Repeatable Battery for the Assessment of Neuropsychological Status, Adjusted for the Hearing Impaired (RBANS-H) is a cognitive test battery that includes subtests for attention, language, visual-spatial-constructive, and immediate and delayed memory.

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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.



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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.

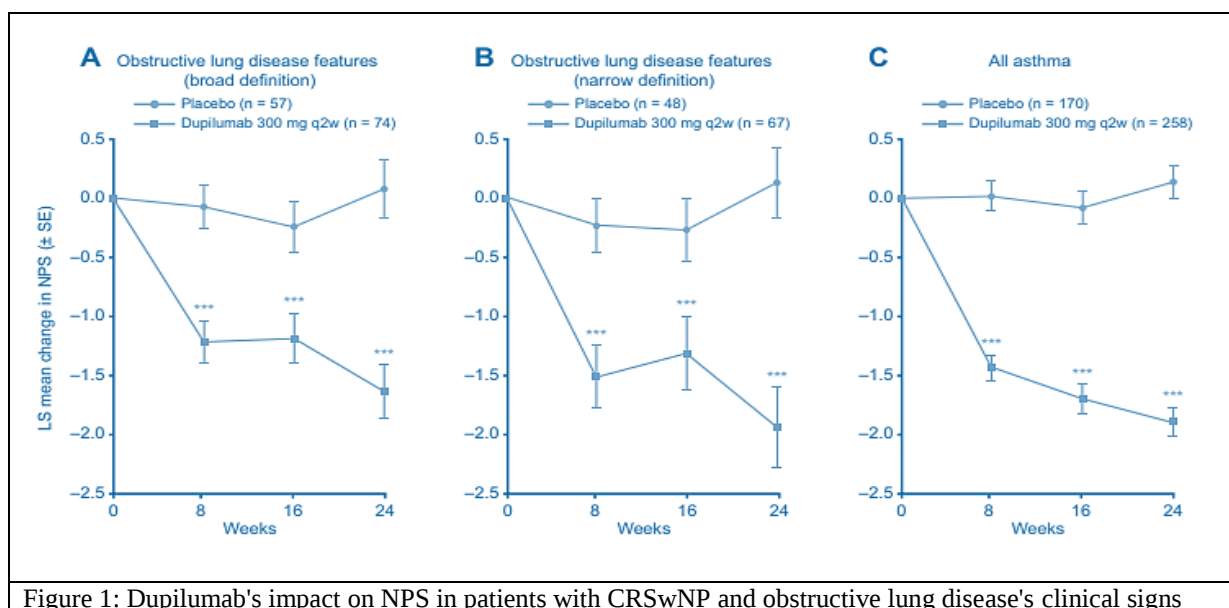


Figure 1: Dupilumab's impact on NPS in patients with CRSwNP and obstructive lung disease's clinical signs



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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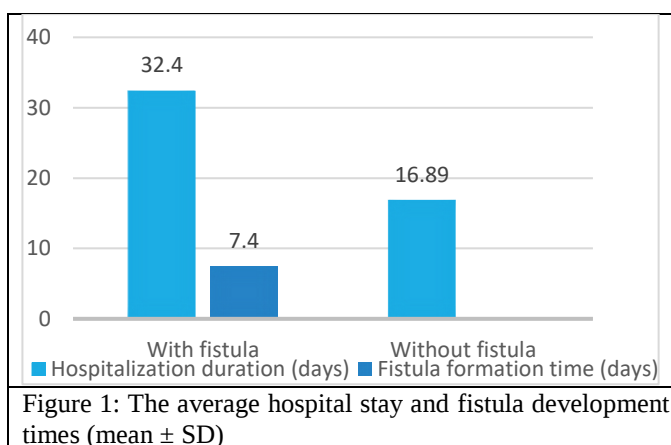


A Study on Assessing the Incidence of Pharyngocutaneous Fistula After Total Laryngectomy

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 m²), 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)

Discussion: The results of this investigation demonstrated that gender, age, anaemia, malnutrition, renal impairment, surgical margin, and radiation history were not related to PCFs.¹ 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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A Rare case of Laryngeal sarcoma with Rhabdomyoblastic Differentiation

Introduction: Sarcomatoid carcinoma (SC), also known as spindle cell squamous cell carcinoma, is a rare subtype of squamous cell carcinoma made up of a malignant spindle and/or epithelioid pleomorphic cell component linked to intraepithelial dysplasia and/or invasive squamous cell carcinoma. Osteo-chondrosarcomatous or rhabdomyosarcomatous are examples of heterologous elements that may be present in the sarcomatous component.¹ Rhabdomyosarcoma (RMS) is a malignant soft tissue tumour of mesenchymal cell origin that has a wide range of cell types and variable muscle cell differentiation. RMS is identified within the first ten years of life in more than 50% of cases. The World Health Organisation categorises RMS into four primary subtypes: spindle/sclerosing RMS, pleomorphic, alveolar, and embryonal. The head and neck areas, genitourinary tract, and extremities are the most frequent sites of occurrence. 2 This case presents a laryngeal SC with rhabdomyoblastic differentiation that was mistaken for a vocal cord rhabdomyosarcoma (RMS).

Case presentation:

A 72 years old Male patient was unconscious and admitted to emergency department with a past history of hyperlipidemia, hypertension, smoking and changes in the voice since 3 years. A CT scan of the patient's neck revealed a massive, heterogeneously enhancing transglottic mass that extended as far as the supraglottis, glottis, and subglottis and had a maximal dimension of 4.1 cm (Figure 1a). A CT scan of the chest, abdomen, and pelvis revealed no further tumours or potential distant metastases. Micro laryngoscopy was performed after flexible laryngoscopy, which found a polypoid mass on both true vocal cords. The biopsy resulted in pleomorphic RMS. Direct laryngoscopy was used to take laryngeal biopsies of the mass, and microscopic analysis revealed a malignant neoplasm with biphasic morphology. (Figure 1b)



Figure 1a: The CT neck reveals a 4.1 cm heterogeneously enhanced transglottic mass including the supraglottic, glottic, and subglottic parts of the larynx.



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The tumour has a squamous component with invasive squamous cell carcinoma and high-grade dysplasia or carcinoma in situ. In the epithelial component of the tumour, the immunohistochemistry profile revealed positive staining with AE1/AE3, CK5/6, and p40 but negative staining in the sarcomatous component. Desmin and myogenin levels in this area were very high. As a result, this 72-year-old was diagnosed with SC with rhabdomyoblastic differentiation. The patient underwent a thorough laryngectomy along with the dissection of both neck lymph nodes. Grossly, the specimen showed a massive, lobulated, friable mass of 3.2 cm in largest dimension obliterating the actual vocal cords on the right and left and spreading into the subglottic region (Figure 1c). A microscopic examination of the mass revealed the previously stated results, and no lymph node metastases were found. The patient is presently receiving adjuvant radiation therapy.

Discussion: According to a study by Colizza, A., et al., primary laryngeal carcinosarcoma is a very uncommon type of cancer. There are no established management standards; however, surgery is described as the best form of therapy in the literature, and radiation therapy is the only acceptable alternative with challenging efficacy. Nodal metastasis is the most crucial prognostic factor.³



Figure 1b: Laryngoscopy reveals a massive polypoid mass affecting both the left and right real voice cords as well as the fake vocal cords.

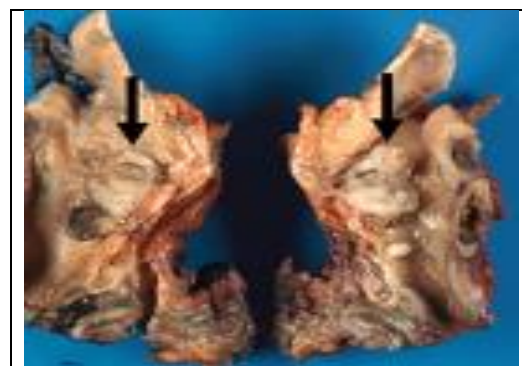


Figure 1c: A sagittal slice of the larynx shows a massive, exophytic glottic mass (arrows) with a maximum diameter of 3.2 cm.

Conclusion: This present case concludes that sarcomatoid carcinoma with rhabdomyoblastic characteristics is relatively uncommon in the larynx and that it can be difficult to distinguish it from sarcomas, particularly when epithelial differentiation is not readily apparent.

Pathologists need to be aware that sarcomatoid carcinoma originating in the larynx may have a rhabdomyoblastic heterologous component



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