

Dear Doctor,

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

Inside This Issue:

1. Chronic habitual hyper functional childhood dysphonia: Behavioural characteristics and parenting styles
2. Predicting mortality in the management of deep neck infections: A New Model
3. Association between cleft palate width and otitis media
4. Spontaneous resolution of silent sinus syndrome in a paediatric patient: A Case Report

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Ltd

**Chronic habitual hyper functional childhood dysphonia:
Behavioural characteristics and parenting styles**

Introduction: Voice abuse and misuse, improper breathing during phonation and excessive tonus of the neck muscles leads to hyper functional childhood dysphonia¹. Excessive use of the voice or to vocal hyper function may develop vocal fold nodules, which are the most common cause of dysphonia in children². Dysphonia shows a negative impact on children communication, general health, social development, self-esteem and educational development, therefore identification and management of childhood dysphonia is crucial for child educational, psychosocial development and also for physical and emotional health³. Children with dysphonia requires integrated approach of managing their behaviour as parents play a crucial role in monitoring and addressing their children abusive actions and misbehaviour³. The study was aimed to understand the association of child behaviour and parenting practices with chronic habitual hyper functional childhood dysphonia

Methods: A case-control study was conducted on 52 Egyptian children aged 4–14 of both genders. The 26 children diagnosed with chronic habitual hyper functional childhood dysphonia (CHCD) according to the auditory perceptual assessment (APA) and laryngeal examination by indirect laryngoscope were under the case group and in control group 26 children with healthy voices according to APA, matched for age and gender were included. The case group was subjected to laryngeal examination by indirect laryngoscope. The Statistical Package for Social Science (SPSS) Version was used to gather, tabulate, and statistically analyse data on an IBM-compatible personal compute.

Results: The study result reveals that in a total of 52 patients, 76.9% and 73.1% of patients are males in case and control group, followed by 23.1% and 26.9% were females in case and control group. Nearly 61.55% of patients in case and 30.8% of patients in control group are having abnormal emotional symptom score. Abnormal conduct problem score was noted in 57.7% of case group and 42.3% in control group. As table 1 shows that a mean of 12.9 ± 3.1 has showed a positive parenting in control group and 12.7 ± 2.6 in case group, Inconsistent discipline mean score was noted 10.6 ± 3.1 (5–15) in case group and 9.9 ± 3.2 in control group. At the SDQ, children with CHCD had significant higher emotional, conduct, and total difficulty scores. The degree of dysphonia was associated with prosocial behaviour and emotional symptoms. The two groups' parenting practices did not significantly differ from one another.

Table 1: Comparison of positive parenting practice scores

Parameter	Case Group	Control group
Positive parenting	12.7±2.6	12.9±3.1
Parenting Involvement	10.9±2.8	11.5±2.5
Poor supervision	3	4
Inconsistent discipline	10.6±3.1	9.9±3.2

Assessment of child behaviour is based on the mother's own rating scale. Positive parenting scales, parental involvement, and poor supervision were all lower in the current study case group, whereas inconsistent discipline and incorporeal punishment were greater with no statistically significant difference between the two groups.

Conclusion: The study concludes that Abuse and misuse of voice were found to be a predictor of CHCD Children with CHCD had a higher score on the emotional symptoms scale There is no association found between parenting practices and CHCD.

Abuse and misuse of voice were found to be a predictor of CHCD Children with CHCD had a higher score on the emotional symptoms scale There is no association found between parenting practices and CHCD

References:

1. Ibrahim AS, Amer AM, Tobar SS, Baz HM. Behavioral characteristics and parenting styles in chronic habitual hyperfunctional childhood dysphonia. *The Egyptian Journal of Otolaryngology*. 2022 Dec;38(1):1-0..
2. Sonbay Yılmaz ND, Afyoncu C, Ensari N, Yıldız M, Gür ÖE. The Effect of the Mother's Participation in Therapy on Children with Vocal Fold Nodules. *Ann Otol Rhinol Laryngol*. 2021 Nov;130(11):1263-1267.
3. Elbanna, M.M., Elmaghraby, R.M. Predisposing factors of childhood dysphonia in primary school children. *Egypt J Otolaryngol* 37, 105 (2021).

Predicting mortality in the management of deep neck infections: A New Model

Introduction: Deep neck infections (DNIs) refer to cellulitis or abscesses that develop in the deep cervical fascial space which usually can spread to several tissue sites and have the potential to induce serious complication¹. Even though Frequency of deep neck infections decreases after the use of antibiotics, there was a still problem in diagnosis and treatment². To avoid serious and potentially fatal complications and a prolonged hospital stay selection of optimal treatment for each patient in the early stages of a DNI is important. To evaluate whether neck swelling in a patient with DNI is healthy, cellulitis, or abscessed vary between examiners and limited accuracy was noted. Various diagnostic tools have been developed like computed tomography and laboratory investigations include complete blood count C-reactive protein, Erythrocyte sedimentation rate and culture for bacterial growth³. The progression of DNIs and their potential for high morbidity and mortality rates makes the potential for mortality may be an important consideration for patient decision-making. The present study aim to develop a new model capable of predicting treatment outcomes of DNI patients by using indicators at the visit.

Methods: A retrospective study was conducted in 198 DNI patients in which their medical records were evaluated. patients diagnosed with cervical abscess/cellulitis were included in this study. Of 198 evaluated patients, 153 were enrolled in the final study, 48 were ruled out because insufficient data. Treatment approaches were based on clinical findings. From patient medical records, various variables like demographic information, hospitalization duration, symptoms, laboratory examinations, radiological examinations, and co-morbidities corresponding to patient condition were extracted. Logistic regression models were used to explore the relationship between risk factors and mortality, with odds ratios (ORs) and 95% confidence intervals (CIs) calculated for each variable

Results: The study result reveals that in a In total, 153 patients 87 male, 66 female with a median age of 48.0 years. Imaging analyses revealed infections of the Para pharyngeal space (45.8%), submandibular space (45.1%) and sternocleidomastoid region (69.3%) in these patients, of whom 49.7% exhibited infections of multiple spaces. In total of 153 patients 143 underwent successful treatment and recovered or stabilized, while the remaining 15 underwent unsuccessful treatment and eventually worsened or passed away. The serum creatinine (126.2 ± 49.7 g/L compared to 65.7 ± 15.2 g/L) and blood urea nitrogen (BUN) (12.1 ± 4.4 g/L compared to 6.2 ± 0.7 g/L) were significantly higher among uncured ones

compared to cured ones. To establish a model capable of predicting mortality for patients at the time of clinical presentation, the study has incorporated the factors identified above into a logistic model. Factors in the univariate model included age, rural residence, dyspnoea, GFR $95 \mu\text{mol/L}$, BUN $>7.86 \text{ mmol/L}$ and Para pharyngeal space infections. Under this model, condition 1 applied to patients with creatinine $>95 \mu\text{mol/L}$, while condition 2 applied to patients with mediastinitis and Albumin. Based on condition 1 and condition 2, patients were stratified into three groups. As figure 1 depicts that the patients in Recoverable group showed 98.4% of patient's survival rate, roughly half of the patients eventually deteriorated or died in High-risk group, and in the Fatal group two thirds of these patient's died.

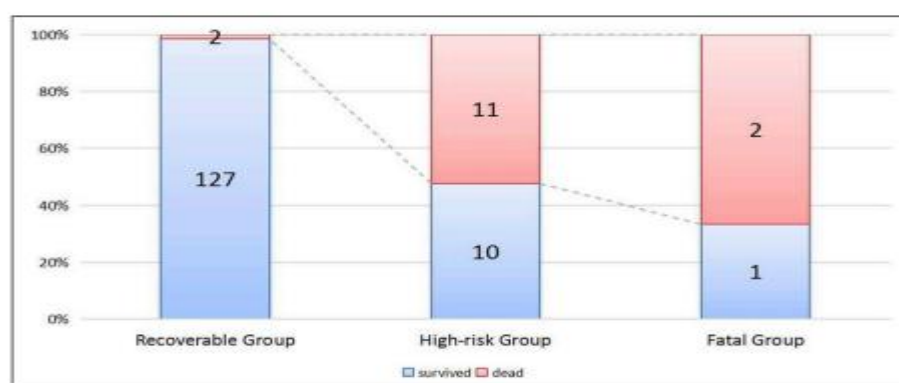


Figure 1 Distribution of mortality rate in different groups

Conclusion: The current study successfully developed a predictive model which helps to forecast the potential for mortality before the therapeutic intervention, thereby enabling better communication between doctors and patients

The current study successfully developed a predictive model which helps to forecast the potential for mortality before the therapeutic intervention, thereby enabling better communication between doctors and patients

References:

1. Tao X, Hua H, Liu Y. A novel model for predicting mortality in the management of deep neck infections. *Ear Nose Throat J.* 2022 Nov 1;1455613221133245. ..
2. Bal KK, Unal M, Delialioglu N, Oztornaci RO, Ismi O, Vayisoglu Y. Diagnostic and therapeutic approaches in deep neck infections: an analysis of 74 consecutive patients. *Braz J Otorhinolaryngol.* 2022 Jul-Aug;88(4):511-522.
3. Ban MJ, Jung JY, Kim JW, Park KN, Lee SW, Koh YW, Park JH. A clinical prediction score to determine surgical drainage of deep neck infection: A retrospective case-control study. *Int J Surg.* 2018 Apr;52:131-135.

Association between cleft palate width and otitis media

Introduction: Children with cleft palate (CP) are more likely to experience otitis media with effusion (OME) and Persistent OME is associated with mild to moderate hearing loss which may lead to language development issues¹. Symptoms of OM with effusion are insidious, so delay in diagnosis may lead to complications such as speech defects and hearing loss. Various studies have documented the association between cleft palate and OM with effusion which helped the authors to advise for early insertion of ventilation tubes in all children born with the condition². Middle ear function and hearing level of patients with cleft palates can be improved after palatoplasty because of functional reconstruction of the palatal muscles and eustachian tubes³. The present study aimed, to investigate the relationship of cleft width with OM and to identify whether a wide cleft is a risk factor for the incidence, type, amount of middle ear effusion, and prolonged morbidity in OM.

Methods: A retrospective, cohort study was conducted in children with CP who underwent palatoplasty. CP with one-stage palatoplasty at age in the Department of Plastic and Reconstructive Surgery and treatment for OM in the Department of Otolaryngology from age 0 years every 3–6 months for at least 2 years. All the palatoplasty were performed by an experienced surgeon. Cleft width was measured in millimetres from the end of the alveolar process of the maxilla by a single plastic surgeon during palatoplasty using Castroviejo Straight Tip caliper and was categorized using the Veau classification as I (soft palate cleft), II (soft and hard palate), III (unilateral cleft lip and palate), or IV (bilateral cleft lip and palate). The test results were statistically analysed using SPSS version 28.

Results: The study result reveals that in a total of 118 patients with CP comprising 63 (53.4%) were males and 55 (46.6%) were females. Figure depicts the cleft width in terms of the type and amount of middle ear effusion at the initial VTI before, and concurrently with palatoplasty. A significant difference in cleft width was found in terms of the type and amount of effusion in the middle ear. Patients with mucoid, complete effusion had a significantly wider cleft. A significant trend toward an increased incidence of AOM with a tympanic bulge by Veau classification, Veau III had a significantly higher incidence of OME when compared to the Veau I. o no correlation between cleft width and the age at OME resolution.

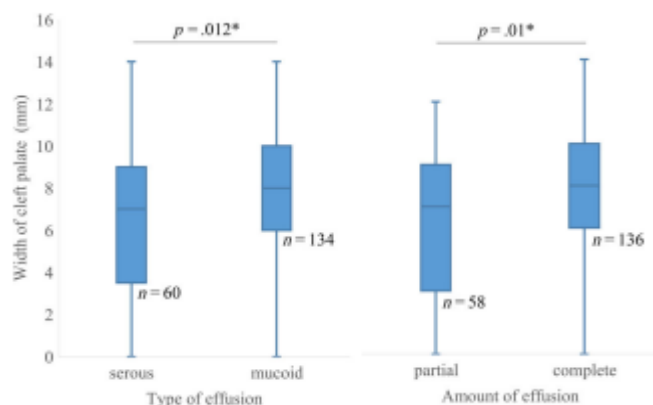


Figure 2 Comparison of cleft width by the type and amount of middle ear effusion

Overall OME incidence was 83.1%, that cleft width did not differ significantly by OME incidence and no significant association between OME incidence and Veau classification on trend analysis. AOM incidence and the type and amount of middle ear effusion before palatoplasty were associated with cleft width possibly because wide clefts were more likely to be contaminated by food, fluids, and saliva in the eustachian tube an immune/inflammatory response and leading to severe OM

Conclusion: The current study concludes that Cleft width was associated with AOM incidence and the type and amount of middle ear effusion before palatoplasty

The current study concludes that Cleft width was associated with AOM incidence and the type and amount of middle ear effusion before palatoplasty

References:

1. Yoshitomi A, Baba S, Tamada I, Nakaya M, Itokawa M. Relationship between cleft palate width and otitis media. *Laryngoscope Investigative Otolaryngology*. 2022.
2. Edetanlen EB, Saheeb BD. Otitis media with effusion in Nigerian children with cleft palate: incidence and risk factors. *Br J Oral Maxillofac Surg*. 2019 Jan;57(1):36-40.
3. Lou Q, Zhu H, Luo Y, Zhou Z, Ma L, Ma X, Fu Y. The Effects of Age at Cleft Palate Repair on Middle Ear Function and Hearing Level. *Cleft Palate Craniofac J*. 2018 May;55(5):753-757.

**Spontaneous resolution of silent sinus syndrome in a
paediatric patient: A Case Report**

Introduction: Silent sinus syndrome (SSS) is defined as maxillary sinus-related orbitopathy involving progressive enophthalmos, hypoglobus, and facial asymmetry and more commonly seen in adults¹. Progressive alteration in the volume of the maxillary sinuses that may result in facial asymmetry was termed as Chronic maxillary atelectasis (CMA). Patients with SSS are asymptomatic, the disease is often diagnosed late and culminates in inevitable facial asymmetry². The only difference between the two was the presence of sinus-related symptoms in CMA. Previous studies that explored the cause behind CMA reported chronic sinusitis, negative internal pressure, and valvular occlusion by the medial infundibular because of disease progression, teenagers would be expected to present with more significant orbital findings and maxillary atelectasis.³ To prevent further orbital complications, treatment for SSS involves surgical intervention aimed at improving maxillary sinus aeration. The aim of this study is to present a rare case of Spontaneous resolution of silent sinus syndrome in a paediatric patient.

Case study:

A four-year-old female child with a chief complaint of subclinical sinonasal process contributing to her reactive airway disease and history of severe asthma was referred to an Otolaryngologist. Hypoplastic and opacified right maxillary sinus, depression of the right orbital floor, and lateralization of the uncinate process was revealed in the CT scan of the sinuses and patient was diagnosed with SSS. Functional endoscopic sinus surgery (FESS) with maxillary antrostomy was planned to treat the condition, however patient lost follow up before the schedule of procedure.

Several years later at the age of thirteen the patient was re-presented to clinic for evaluation. Patient was on omalizumab after which there was marked improvement in both her asthma and allergic rhinitis. Right maxillary sinus smaller than the left, but now well-aerated, without opacification was noted in repeat CT scan of the sinuses as shown in the figure 3 and right orbital floor was still slightly depressed in comparison to the left, however this depression was significantly less pronounced a marked improvement in the patient's osteomeatal obstruction with apparent spontaneous re-ventilation of the right maxillary sinus was noted. Based on these findings, the decision was made for continued observation rather than surgical intervention.

Surprisingly patient demonstrated resolution of osteomeatal obstruction and marked improvement in maxillary sinus aeration on interval CT scan even not undergone any recommendation. There is a possibility that the medical therapy (initiation of omalizumab) aimed at treating her underlying asthma also decreased allergy-mediated sinonasal inflammation which may have been contributing to obstruction at the middle meatus

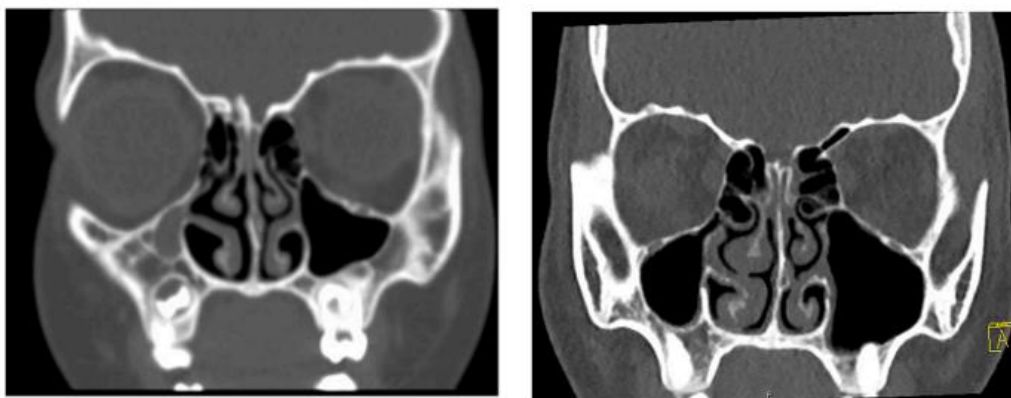


Figure 3 Computed Tomography (CT) Scan of Sinuses at Age 4 and 13 Years

Conclusion: The current study concludes that in certain paediatric patients with SSS, surgery may not be essential. when clinical manifestations of SSS are not present, patients may experience spontaneous resolution of this process as the maxillary sinuses continue to mature, warranting conservative management and observation

The current study concludes that in certain paediatric patients with SSS, surgery may not be essential. when clinical manifestations of SSS are not present, patients may experience spontaneous resolution of this process as the maxillary sinuses continue to mature, warranting

References:

1. Ihnat JM, Williams LC, Baum ED, Waldman EH. Spontaneous resolution of silent sinus syndrome in a pediatric patient. *Otolaryngology Case Reports*. 2022 Oct 22:100485.
2. Leidens N, Franco A, Santos MCJ, Makeeva IM, Fernandes Â. Early-diagnosed silent sinus syndrome and cone-beam computed tomography in a pediatric patient: a case report. *J Korean Assoc Oral Maxillofac Surg*. 2020 Apr 30;46(2):155-159.
3. Freiser ME, McCoy J, Shaffer AD, Stapleton AL. Silent sinus syndrome in children. *Int J Pediatr Otorhinolaryngol*. 2020 Jul;134:110034.



This scientific input is prepared from the Department of Medical Services, an initiative of M/s Micro Labs Limited under the aegis of Micro Knowledge Academy. The information contained herein is for education purpose only. The content is developed by compiling information from various authentic and published literatures. Although great care has been taken to assure the accuracy of the publication, M/s Micro Labs Limited shall not be responsible or in any way liable for any inaccuracy, errors, or omissions resulting from negligence or otherwise howsoever or any consequences arising there from. In spite of best efforts, the information in this publication may become outdated over time. M/s Micro Labs Limited shall not be responsible in any manner whatsoever, for any action taken, opinions expressed, advice rendered or accepted, any direct, incidental, special or consequential loss and damage caused on the basis of any material or information presented in this publication / update.