



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



Evaluating the Long-Term Results of the Malek Technique in Unilateral Cleft lip and Palate

Introduction: Unilateral cleft of the lip and palate (uCLP) is the most common type and represents 37% to 50% of all cases of clefts and these are twice as frequent in Asia as in Europe¹. Cleft lip and palate (CLP) are one of the most common congenital deformities of craniofacial malformation leads to various dental anomalies in early childhood and palate is the non-union of the upper lip and roof of the mouth which may occur with a significant change in the shape and extent of congenital defects. The aetiology of non-syndromic CLP is poorly understood. Origin of CLP is multifactorial, as both environmental and genetic factors play a crucial role at certain points during the growth of the face². Unilateral cleft lip and palate (UCLP) is a persistent challenge for both patients and cleft care providers. Following primary surgical repair, children with UCLP often receive multiple revision procedures, fistula repairs, bone grafting, and orthodontic care³. The success of cleft repair not only depends on the basis of a good aesthetic result, but also on the social acceptance of the child, his possibility to attend school and receive an education, and his integration in the social activities¹. The aim of this study is to evaluate long-term results of the multi-disciplinary care of patients born with a uCLP, treated by surgeon using Malek technique.

Methods: All children born with uCLP between 1996 and 2001, operated in our hospital were included in this study. The different demographic data like gender, precise type of malformation, and association with any syndrome were obtained. Operative data were subdivided into plastic, ENT, and maxillofacial procedures. Plastic paediatric interventions included veloplasty, labioplasty, palatoplasty, closure of oro-nasal fistula, and pharyngeal flap. Orthophonic and psychological follow-up were noted and Syndromic children were excluded.

Results: A total of 34 children born with uCLP who have undergone surgical procedure at 3 and 5 months of age, performed by the same senior surgeon were included in the study. All results were recorded at the end of the follow-up up to 18 years of age. Nearly 34 uCLPs were operated on following the inverse Malek procedure in two stages at a median age of 3.2 months for the veloplasty, and 5.9 months for the labio and palatoplasty. Sixty per cent had a fistula whose closure required a median of 1.5 operations and Eighty-eight percent (88%) had grommets, of which four required several operations. The mean number of grommets per child was 1.89 with a median of 2. But 4 children required more than 2 operations to re-insert grommets during the follow-up. Eleven children developed tympanosclerosis.



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Ninety-seven percent had an alveolar graft at a mean age of 8.5 years and 21% underwent a Le Fort osteotomy at a mean age of 15.2 years. No children required a new operation because of immediate post-operative complications. 29% of the children were operated on for secondary lip surgery, 7 needed surgery on the upper lip to remove excess tissue; and 4 had a realignment of the Cupid's arch. The mean age was 12.8 years with a median age of 13.5 and 29% of the children were operated on for a late rhinoplasty.

Table:1 Results of Speech, Fistula, Pharyngeal Flap, and Hearing Evaluation at 18 Years

Variable	At 18 years of age
Percentage of fistula	66%
Percentage of pharyngeal flaps done	7%
Grommets	88%
Tympanosclerosis	32%
Percentage of bone graft needed	97%
Percentage of Le Fort osteotomy done	20.5%
Secondary surgery for lip	29%
Rhinoplasty	29%

Conclusion: The study concludes that Malek procedure for children born with uCLP is related to a high risk of fistula but good long-term phonatory results.

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Evaluating the association of Supine Pharyngeal Width with Complete Concentric Palatal Collapse During Drug-Induced Sleep Endoscopy and Hypoglossal Nerve Stimulator Outcomes

Introduction: Obstructive sleep apnoea (OSA) is a prevalent condition affecting approximately 10% of adults and is associated with an increased risk of motor vehicle and workplace accidents as well as cardiovascular morbidity and mortality¹. Drug-induced sleep endoscopy (DISE) has developed as a safe and useful technique that allows direct visualization of the anatomy and collapsibility of the upper airway via nasoendoscopy. Complications such as central apnea and deep desaturation requiring intubation are infrequent and is relatively simple procedure². Almost all the patients considering Hypoglossal Nerve stimulation (HGNS) as a treatment option undergo DISE as part of determining treatment candidacy for HGNS. Patients with complete concentric collapse (CCC) or total airway blockage resulting from simultaneous collapse of the soft palate and oropharyngeal lateral walls are not eligible for HGNS³. The current study hypothesized that supine pharyngeal width (SPW) in awake patients is associated with CCC and HNS therapy outcomes.

Methods: A retrospective, single-centre cohort study was conducted in adults with moderate to severe obstructive sleep apnea underwent awake measurement of SPW followed by DISE screening for CCC and patients electing for HNS implantation underwent postoperative polysomnography per standard of care. Baseline polysomnography was completed by using either in-laboratory (PSG) or home sleep apnea testing (HST) within the 24 months preceding consultation. DISE was performed using propofol sedation to evaluate for CCC per routine clinical care.

Results: In a total of SPW was measured in 73 patients. All Patients were elderly, overweight men with severe OSA Patients with SPW >20 mm had a greater rate of HNS response than those with SPW ≤20. SPW ranged from 10 to 40 mm with a mean of 24 ± 8.4 mm. Ten patients have displayed CCC during DISE. Patients with CCC were more likely to be male, significantly heavier and had lower SPW values than those without CCC as shown in figure 2.

All patients in this study had pretest odds of 6.3 for non-CCC during DISE, but the patients with SPW >20 mm had post-test odds of 42.0 for absence of CCC.



Postoperative PSG data were available from 31 of 44 patients implanted with HNS out of the 73 who had undergone DISE. HNS non-responders were significantly heavier and had lower SPW values than responders. The mean postoperative AHI differed significantly between patients with SPW >20 mm and SPW ≤20. The Sher response rate for patients with SPW ≤20 was significantly less than that for patients with SPW >20. SPW was the only variable significantly associated with AHI outcomes across each model ($P < .05$)

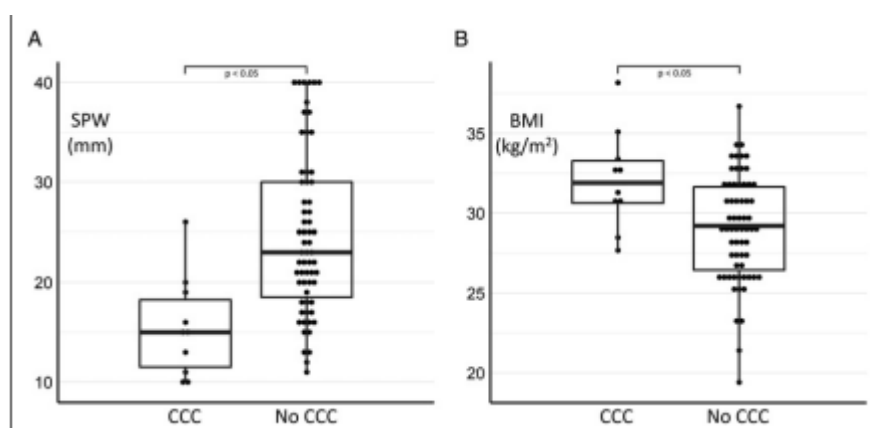


Figure 1

Conclusion: The study concludes that SPW was significantly associated with CCC and postoperative apnea-hypopnea index following HNS implantation. SPW may be a viable screening tool for HNS candidacy.

The study concludes that SPW was significantly associated with CCC and postoperative apnea-hypopnea index following HNS implantation. SPW may be a viable screening tool

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Assessing the best electrode trajectory line in cochlear implant surgery using the Otology planning software reconstructed 3D model

Introduction: For patients with severe to profound hearing loss, Cochlear implants (CI) provide a good management option for hearing rehabilitation and language development. Golden standard for cochlear implantation surgery include a large cortical mastoidectomy and a wide posterior tympanotomy (PT). High-speed drill enables a safer mastoidectomy than the previously used chisel, but a PT requires more training to enable safe identification and prevent harm to the facial nerve². During past, cochlear implantation only comprised the insertion of electrodes in the cochlea, further, studies were performed on the correlations between the number of electrodes in the cochlea and hearing outcomes. Complications concerning the facial nerve can occur owing to the drilling or heating of the facial nerve during PT². Device-related factors are linked to the exact position of the implant in the cochlea, which varies between patients even with the same electrode due to the variability of the human cochlea in both size and shape, these variations influence the intracochlear position of the CI³. The aim of this study is to Assessing the best electrode trajectory line in cochlear implant surgery using the Otology planning software reconstructed 3D model

Methods: Twenty-five CT scans of the temporal bone were included in this study for analysis. Cases with high-resolution CT scans of the temporal bone with a normal anatomy, with a section thickness of 1 mm, and that were suitable for upload and analysis by OTOPLAN were included in this study. It uses CT-based reconstructions to create a 3D model with specific ear structures. All statistical analyses were performed with Graph Pad Prism version 8.4.0

Results: Study results show that mean age at the time of the CT scan was 6.8 ± 12 years, the retro-facial approach was the optimum approach in the majority of studied cases (52%), followed by the facial nerve (44%) and facial recess (4%) approaches. Safe distance for the facial nerve was wider in the facial recess approach in only 3 scans, whereas for remaining scans, the safe distance was in favour of the retro-facial approach. The average distance from the facial nerve was 0.72 ± 0.36 mm in the retro-facial approach subgroup and 0.53 ± 0.25 mm in the facial recess approach subgroup safe distance from the facial nerve was statistically better in the retro-facial approach than that in the facial recess approach.

The analysis revealed that 0 ears exhibited the minimum facial recess size. Most of the ears exhibited double the size of the minimum facial recess (68%), 28% exhibited triple the size of



the minimum facial recess, and only 4% exhibited more than triple the size of the minimum facial recess. Use of OTOPLAN-reconstructed imaging helped us to analyse the retro-facial approach, plan the surgical trajectory, and calculate the surgical distance and compare this approach to the standard facial recess approach by classifying the different sizes.

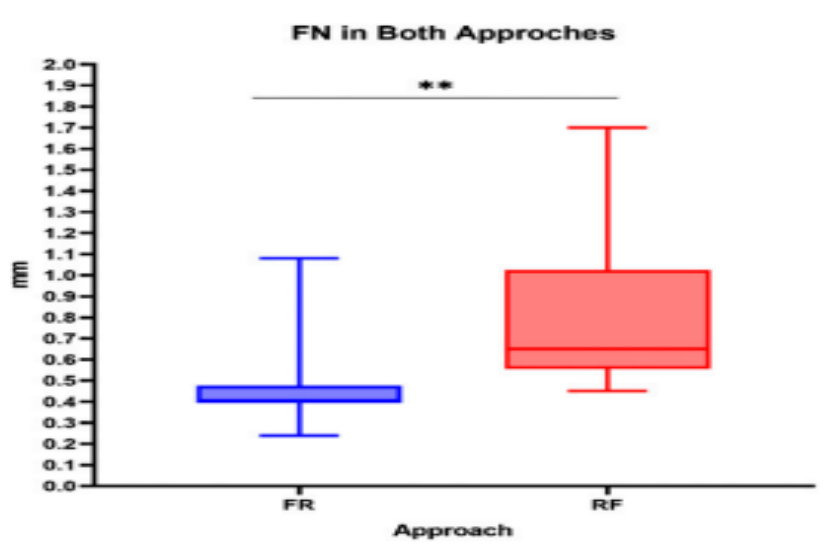


Figure 2 safety distances for the facial nerve between the facial recess and retro-facial approaches

Conclusion: The study concludes that OTOPLAN-reconstructed imaging provided a useful analysis of the retro-facial approach and helped in planning the surgical trajectory line towards the Round Window. It helps the surgeon to compare the retro-facial approach to the standard facial recess approach during preoperative planning.

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A Carotid Body Tumour and Associated Jugular Vein Aneurysm-A Case Report

Introduction: Carotid body tumours (CBTs) arise from the Para ganglionic tissue in the bifurcation of the common carotid artery and may cause invasion of carotid artery and internal jugular vein invasion is rare¹. CBTs are rare chemical receptor tumors which accounts for 0.6% of the head and neck tumors. CBT is usually benign with the incidence of malignant tumors is below 10%. These tumors are asymptomatic and initially noticed by inspection and palpation of neck swelling during the physical examination, or on radiological imaging studies. Commonly observed symptoms are a pain, dysphagia, and autonomic dysfunction in symptomatic cases². Aneurysms of the internal jugular veins are typically asymptomatic and are manifested as a palpable soft tissue mass of the neck. They are often misdiagnosed because of the wide range of differential diagnoses that include benign or malignant head and neck neoplasms, such as lymphoma, lymphadenopathy, lipoma, lymphangioma, laryngocele³. The aim of this study is to report a case of Carotid Body Tumour and Associated Jugular Vein Aneurysm

Case Report

A 61-year-old woman attended radiology department for further examination of dysphagia and hypertension with a 3-month history. No other medical history was noted, on physical examination, the arterial blood pressure was 180/100 mm Hg in both arms. Patient has a sign of pulsatile swelling in both sides of the neck with palpation. MR imaging and MR angiography were performed as MR scan demonstrated the bilateral CBTs and MR sequences also showed an isthmus structure between right and left CBTs as shown in Figure 1.

On angiographic images, the left internal jugular vein was invaded by left CBT. An aneurysm was found on the left external jugular vein likely associated with vascular redistribution from left internal jugular vein invasion as shown in Figure 2.

Although catheter angiography is the gold standard for the diagnosis and management of CBT, it is an invasive method. A combination of MR imaging and MR angiography provides important information for diagnosis and surgical planning. Nowadays, these imaging



techniques are successfully used for this condition. Although CBTs can invade internal and external carotid arteries, jugular vein invasion is unusual. Moreover, the retropharyngeal fusion of the CBTs across midline is an unexpected. In this case left external jugular vein aneurysm occurred due to vascular redistribution from invasion of the left internal jugular vein.



Figure 1&2: Bilateral carotid body tumors and left external jugular vein aneurysm.

Conclusion: The current study suggests that bilateral CBTs diagnosis should always be kept in mind in patients admitted with mass in the neck, and it should be known that other pathologies may be present in these patients.

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