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# Cutting edge of mucosal immunology and its clinical application

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## ABSTRACT

The aero-digestive tract is continuously exposed to infinite numbers of beneficial (e.g., commensal bacteria) and harmful antigens (e.g., pathogenic microbe), in handling its day-to-day duties. The aero-digestive tissues are thus equipped with the mucosal immune system (MIS) offering the first line of surveillance and defence machinery against invasion of pathogens. The MIS is equipped with sophisticated immune induction machinery originated from nasopharyngeal-and gut-associated lymphoid tissues for the induction of antigen-specific immune responses. Nasal or oral immunisation with an appropriate vaccine delivery vehicle thus resulted in the induction of protective immunity in both systemic and mucosal compartments leading to the double layers of protection against mucosal pathogens. Our efforts have been aiming at the development of mucosal vaccines against aero-digestive infections. For the respiratory infection, a cationic cholesteryl group-bearing pullulan nanogel (cCHP nanogel) containing pneumococcal surface protein A (PspA-cCHP nanogel) has been shown to be a potent adjuvant free nasal vaccine for the induction of PspA-specific protective respiratory IgA and IgG antibodies against pneumococcal infection. For gut pathogen-induced diarrhea, our fusion science between mucosal immunology and agriculture science resulted in the creation of rice transgenic (Tg) vaccine, “MucoRice” as a new generation of cord chain-and needle/syringe-free vaccine system. Tg rice expressing B subunit of cholera toxin (MucoRice-CTB) has been shown to induce antigen-specific IgA-mediated protective immunity against *Vibrio cholera*-induced diarrhea. Both cCHP nanogel and MucoRice are thus attractive mucosal vaccine systems for the control of aero-digestive infectious diseases.

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# Sensitisation to common allergen in allergic rhinitis children – a retrospective review

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## ABSTRACT

**Introduction:** Allergic rhinitis is common among children in Malaysia. One of the managements of allergic rhinitis is allergen avoidance based on ‘Allergy Rhinitis and its Impact on Asthma (ARIA), Clinical and Experimental Allergy Reviews’ guidelines. Therefore, patients with allergic diseases need to know the type of allergens that they sensitised to. This study determined the prevalence of sensitisation to common allergens among children with allergic rhinitis seen in a tertiary referral centre in Malaysia. **Materials and Methods:** This was a retrospective study of skin prick test results (SPT) done in the Otorhinolaryngology clinic Universiti Kebangsaan Malaysia Medical Centre (UKMMC) for five years duration. All children aged five to 12 years with symptoms consistent with allergic rhinitis and had a SPT were included in the study. The common allergens that had been used in the SPT were aeroallergens, food allergens and contact allergens. The database of SPT results was collected and reviewed. **Results:** From the total of 580 children that was included in this study, 69.3% showed positive SPT result. A total of 1,515 sensitisations were observed from the positive SPT results with 60.9% sensitised to aeroallergens, 38.6% sensitised to food allergens and 0.6% sensitised to contact allergens. Among the aeroallergens, the house dust mite accounted for more than half of the sensitisations: *Dermatophagoides pteronyssinus* (27.9%), *Dermatophagoides farinae* (26.4%), *Blomia tropicalis* (26.0%). The most common food allergen sensitisation was seafood - crab (18.5%), prawn (18.0%) and squid (8.7%). Each of the other food allergens tested accounted for less than five percent of the positive SPT result. The contact allergen tested in this study was latex. **Conclusion:** This study represents a common allergen sensitisation in children with allergic rhinitis residing in urban areas. House dust mites being the most common allergen sensitised in these children.

# Challenges in the management of antrochoanal polyp in children

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## ABSTRACT

**Introduction:** Antrochoanal polyp (ACP) is an inflammatory polyp, predominantly unilateral and occurs commonly in children and young adults. The incidence in preschool children is very low. **Methods:** ACP in children less than 13 years old was retrospectively reviewed at a tertiary hospital, Universiti Kebangsaan Malaysia Medical Centre (UKMMC) from 2000 until 2016. **Results:** There was a total of four cases; three boys and a girl. Of the three boys, two were six, and one was 12 years old, and the girl was eight years old at the time of surgery. All of them presented with gradual unilateral nasal obstruction associated with symptoms of rhinosinusitis and snoring. Nasal endoscopic examination revealed a pearly greyish mass in the nasal cavity extending into the nasopharynx. One patient underwent two surgeries at other hospital prior to the referral to UKMMC. Computed tomography scan of paranasal sinuses showed unilateral nasal cavity and maxillary sinus opacity. All patients underwent middle meatal antrostomy and removal of polyp with microdebrider and the stalk was cauterized with a bipolar diathermy. However, two of the younger children had recurrence at four months and eight months later. Revision surgery was performed with meticulous removal of polyp and diathermised at the stalk area. Follow up after two years did not reveal any further recurrence in one of them. **Discussion:** Surgery is the only option for treatment of ACP but most surgeons might opt for limited nasal surgery in the management of ACP in children and hence carry the risk of recurrence. Endoscopic nasal surgery in younger children is technically challenged as the surgical field is very limited and meticulous removal is required to minimise complications. The stalk of the polyp should be cauterised to prevent recurrence of disease. Post-operative care is important to enhance the healing process and to prevent the infection.

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# Sound frequency spectra in relation to site of obstruction in sleep endoscopy

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## ABSTRACT

Identifying the site and pattern of upper airway obstruction or changes during sleep is important in guiding treatment approaches in obstructive sleep apnoea (OSA) or sleep disordered breathing (SDB). Although Müller manoeuvre has been routinely performed for the above purposes, the increased muscle tone during wakefulness may not depict the actual event. On the other hand, drug induced sleep endoscopy (DISE) may give a better evaluation of site of obstruction in the sleep state. Several studies have shown that performing DISE may help in tailoring therapy individually, leading to an increased surgical success rate. Therefore, DISE is a pertinent assessment tool in managing OSA patients. However, due to high cost, long waiting list, semi-invasive nature of procedure and limited trained personnel, the feasibility of performing DISE in every patient is less likely. Hence, it would be extremely useful if a polysomnography (PSG) can indicate the site of obstruction in OSA patients. Snoring sounds may have specific acoustic characteristics, depending on the site and mechanism of obstructions and vibrations. Here, the preliminary results of the sound frequency spectra of snores in relation to the site of obstruction in DISE of five patients (three females, two male) with mild to severe OSA are presented.

# The study of factors affecting the outcome of modified CAPSO in OSA patients in UKM Medical Centre

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## ABSTRACT

**Background and Aims:** Modified CAPSO is an effective surgical technique in treating patients with obstructive sleep apnoea. The aim of this study is to evaluate the factors associated with the successful outcome of modified CAPSO, in particular body mass index (BMI), tonsil size, neck circumference and gender. **Methods:** A retrospective case study was performed by reviewing the medical records of 50 patients who had undergone modified CAPSO in UKMMC from January 2012 until December 2015. Each patient underwent a sleep study six months to one year after the operation to determine the apnoea-hypopnoea index (AHI). Success was defined as a reduction of 50% in the post-operative AHI. Chi-square test was used to analyse the data. **Results:** Fifty patients (40 males, 10 females) in this study were consists of 43 Malays, four Indians, one Chinese and two of other races. The mean values of pre- and post-operative AHI were 43.4 and 19.7 respectively. The overall success rate was 60%. The success rate amongst the obese was 40% compared to 62% in the non-obese patients and 58% in patients with large tonsils compared to 63% with small tonsils. Meanwhile, the success amongst patients with large neck circumference was 71% compared to 61% with small neck circumference and amongst male and female patients was 60% each. The p-values for BMI, tonsil size, neck circumference and gender were 0.336, 0.721, 0.514 and 1.000 respectively which were all statistically non-significant. **Conclusion:** Our study showed that there was no association between BMI, tonsil size, neck circumference and gender with the successful outcome of modified CAPSO. We therefore conclude that modified CAPSO can be offered to all categories of patients irrespective of their BMI, tonsil size, neck circumference and gender because they do not influence success of the operation.

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## Upper airway stimulation in obstructive sleep apnoea

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## ABSTRACT

**Objective:** Obstructive sleep apnoea (OSA) forms a significant part of the spectrum of sleep-related breathing disorders and is characterised by recurrent episodes of airflow obstruction caused by a total or partial collapse of the upper airway. The aim of this review is to describe upper airway stimulation (UAS) therapy, specifically hypoglossal nerve stimulation, and its role in the treatment of adult OSA. **Methods:** Review of the literature. **Results:** UAS therapy is the newest modality in treating OSA and is indicated in patients who do not tolerate, or unable to adhere to, the first-line treatment of positive airway pressure (PAP) therapy. It is differentiated from other surgical interventions by achieving a patent airway without altering the upper airway anatomy. The Stimulation Therapy for Apnoea Reduction (STAR) trial is a multicentre prospective study, which enrolled 126 participants who underwent surgical implantation of the hypoglossal nerve stimulation system and followed up by a 12-month assessment for effectiveness and adverse outcome. Included participants had moderate to severe OSA, body mass index  $<32\text{kg/m}^2$  and absence of a complete circumferential pattern of palatal obstruction on drug-induced sleep endoscopy. Significant improvements were seen in objective and subjective measurements of the severity of OSA at a one-year follow-up period. These effects were maintained at 36-month post-surgery. **Conclusion:** UAS is an effective and successful long-term therapy for moderate to severe OSA in adult patients who do not tolerate PAP therapy.

# B-stacked protein aggregates in polyps tissue from patients with chronic rhinosinusitis with nasal polyps

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State Institution "Institute of Otolaryngology named after prof. O.S. Kolomiychenko of National Academy of Medical Sciences of Ukraine"

## ABSTRACT

**State of the Art:** In spite of multiyear studies, the main questions of appearance, growth, and frequent recurrence of nasal polyps are still unclear and remain without of universally acknowledged explanation. Meanwhile, the trigger role of inflammation is supported by majority of authors. As well known, the common for inflammation non-functional proteolysis, endogenous intoxication, and oxidative stress lead to formation and accumulation of valuable amounts of wounded proteins, which are structurally unstable and declining to formation of insoluble aggregates. **AIM:** To test the possibility of including of  $\beta$ -stacked protein aggregates in the tissues of nasal polyps in patients with chronic rhinosinusitis with nasal polyps. **Materials and Methods:** The group of 30 patients with CRSwNP was undergone FESS with polyps" removal. The tissues of nasal polyps were tested by histologic, light and polarise microscopy study. **Results:** Two kinds of Congo red painted inclusions with peculiar red-green birefringence were detected in all studied preparations. Similar to amyloids, they were located along collagen and reticular structures. As well known, such inclusions are characterised by high stability, resistance to proteolysis, cytotoxicity, immunogenicity, and the ability for the growth at the expense of surrounded tissues. Contrary to previous opinion, modern knowledge allows to determine these inclusions in nasal polyps neither as collagen, nor as hyaline, but as some kind of  $\beta$ -stacked protein aggregates formed on the surface of insoluble collagenous or reticular matrix. **Conclusions:** The presence of  $\beta$ -stacked protein aggregates in the tissues of nasal polyps may be one of the possible causes of alteration of normal functioning of surrounded tissues with their involvement into pathologic process as well as recurrent course of nasal polyposis.

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## Pharmaceutical treatment of chronic rhinosinusitis depending on phenotypic consideration

Hideyuki Kawauchi

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## ABSTRACT

My talk is on the pharmaceutical treatment strategy to downregulate the persistent inflammation in nasopharyngeal mucosal linings. Therefore, I would introduce you to our clinical trial for the treatment of patients with chronic persistent rhinosinusitis coupled with nasal allergy or eosinophil-dominant pathology. As you already know, a long term per os administration of macrolide series of antibiotics has been widely used and accepted in Japan for the treatment of chronic infective rhinosinusitis or otitis media with effusion and its clinical efficacy is fairly accepted. However, chronic rhinosinusitis coupled with nasal allergy or eosinophil-dominant pathology, so called eosinophilic rhinosinusitis is refractory even to this treatment. It is because that eosinophilic infiltration and activation in paranasal sinuses are considered to be a major contributing factor to the pathology, in addition to ostium blockade with polyp formation. Therefore, we conducted a clinical trial and examined the clinical efficacy of Suplatast Tosilate, which is cytokine-modulating immunopharmacological drug together with macrolide series of antibiotics, in the treatment of patients with chronic rhinosinusitis with nasal allergy or eosinophil-dominant pathology, in order to target on the pathological contribution of eosinophils. Simultaneously, nasal lavage fluids and mucosal specimens of middle meatus were sampled as much before and after the treatment and processed for analyses of eosinophil infiltrations, ECP levels, IL-5 levels, and immunohistochemistry of Th2-type cytokine (IL-4, IL-5) -producing cells and adhesion molecule expression of capillary venules. Our peri-surgical and post-operative treatment strategy of patients with eosinophilic rhinosinusitis is also discussed in my presentation.

# Digital photography and photo-simulation - use it to plan your rhinoplasty surgery

**Gordon Soo**

Division of Facial Plastic Surgery, The Chinese University of Hong Kong, The ENTific Centre, Hong Kong

## **ABSTRACT**

Digital photography is an important part of preoperative planning, postoperative review and learning for rhinoplasty surgery. It is also always the basis of legal documentation for the rhinoplasty. This talk focuses on why digital photography and photo-simulation digital technology should be adequately invested in as well as how useful it can be to permit surgeon a visual for a blueprint to a well-executed rhinoplasty.

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# The Asian nasal and aesthete and the dynamics changes with Asian Septo-Rhinoplasty

**Gordon Soo**

Division of Facial Plastic Surgery, The Chinese University of Hong Kong, The ENTific Centre, Hong Kong

## **ABSTRACT**

The Asian aesthetic perception of the nose is different from the West. This lecture discusses the aesthetic aspiration of the Asian nose from radix to the tip. It highlights the subtle aesthetic changes with different rhinoplasty techniques as well as points to changes that adds to the aesthetic improvement after rhinoplasty.

# External nasal reconstruction

**Avatar Singh Mohan Singh**

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## **ABSTRACT**

Cutaneous malignancies of the nose are common problems and create the increasing need for nasal reconstruction. In spite of the fact that external nasal reconstruction is commonly done, it continues to be a significant challenge to the ENT surgeons. The dual goals of reconstruction are restoration of the desired aesthetic nasal contour and an improved nasal airway. It requires careful analysis of the anatomical and aesthetic deficiencies and may require resurfacing with forehead tissue; support with septal, ear, or rib grafts; and replacement of missing lining. The aim of this presentation is, with advanced planning, pathologies of the external nose can be tackled without much fear.

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# Neoplasms of the nose and paranasal sinuses

**Mohd Razif MY**

Department of Otorhinolaryngology and Head and Neck Surgery, UKM Medical Centre, Malaysia

## **ABSTRACT**

Neoplasm of nose and paranasal sinuses are very rare, which accounts for only 3% of head and neck malignancy. The diagnosis is delayed due to similarity of presentation to benign conditions. In general, 50% are benign and 50% are malignant for nasal tumour. For paranasal sinuses, majority is malignant. Treatment includes surgery, radiotherapy and chemotherapy. Surgery include open surgery and minimally invasive surgical techniques. Epidemiology showed it is predominately in older males. Exposure to wood, nickel-refining processes, industrial fumes and leather tanning have been described as an aetiological factor. In term of location, it involves maxillary sinus (70%), ethmoid sinus (20%), sphenoid sinus (3%) and frontal sinus (1%). Examples of benign lesion are papillomas, osteomas, fibrous dysplasia and neurogenic tumours. Examples of malignant lesion are squamous cell carcinoma, adenoid cystic carcinoma, mucoepidermoid carcinoma, adenocarcinoma, hemangiopericytoma, melanoma, olfactory neuroblastoma, osteogenic sarcoma, fibrosarcoma, chondrosarcoma, rhabdomyosarcoma and sinonasal undifferentiated carcinoma. In conclusion neoplasms of the nose and paranasal sinus are very rare and require a high index of suspicion for diagnosis. Most lesions present in advanced states and require multimodality therapy.

# Imaging in sinonasal tumours

**Kew Thean Yean**

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## **ABSTRACT**

The imaging of sinonasal tumours by cross sectional computed tomography (CT) scan or magnetic resonance imaging (MRI) occurs for the most part within two clinical scenarios. The first involves the patient with nasal symptoms suggestive of chronic rhinosinusitis but unresponsive to medical therapy, and the second consists of a request to map the local extent of a tumour already observed at clinical examination. The goals of imaging are manifold, which will be discussed in this presentation and include: (1) Differentiation between tumour and fluid retention/mucocoeles, (2) Invasion of masticator space, pterygopalatine fossa Perineural tumour spread, (3) Invasion of masticator space, pterygopalatine, (4) Invasion of anterior skull base. Is the dura transgressed? (5) Involvement of middle cranial fossa. Is there perineural tumour spread? and (6) Consideration of few imaging features which may favour more specific diagnostic possibility.

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# Computer assisted and navigation in maxillofacial surgeries

**Mohd Nazimi Abd Jabar**

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## **ABSTRACT**

Correction of maxillofacial deformity as a result of trauma or ablative tumour surgery is an ongoing challenge for oral and maxillofacial surgeon. The use of digital techniques comprises of integration of many different technologies such as 3D-printing, virtual planning and surgery together with surgical navigation have emerged as a promising new frontier and insights in achieving true to origin reconstruction. The use of these technologies may also enhance the concept of individualised surgical planning for more fail-safe and consistent treatment outcome. Being complicated from surgical viewpoints, the applications of both computer-assisted and navigation techniques also require additional pre-surgical technicalities that often go beyond the boundaries of medical and surgical knowledge. This presentation is designed to highlight on how digital data from the diagnostic imaging can be further utilised for more and meaningful ways and to serve as „functional imaging“ oral and maxillofacial surgical procedure. The example will include the use of computer-assisted and navigation technology in surgical procedure such as orbital reconstruction, quadripod zygomaticomaxillary complex fracture and oncological reconstruction.

# Prosthesis in sinonasal malignancy

Fadzlina Abd Karim

Department of Oral and Maxillofacial Surgery, UKM Medical Centre, Malaysia

## ABSTRACT

Facial defects may be caused by post cancer surgery, congenital or trauma with tissue loss which cannot be covered by patients due to their external exposed site. Despite advances in plastic reconstructive surgery, there are always need for maxillofacial prostheses for these patients so that they are able to come back to society. Maxillofacial prosthetic rehabilitation aims to restore anatomical function when massive tissue defects are present and in majority of the treatments provided, aesthetic is the primary factor. Maxillofacial prostheses are mainly for those who are immuno-compromised, having medical constrain or refuse to undergo more complicated reconstructive surgical procedures. Maxillofacial prosthesis can be divided into two types: internal and external prostheses. Obturator is an example of internal prostheses, which can be used as provisional or definitive rehabilitation. External prosthesis for example nasal prosthesis is more flexible and can mimic property of soft tissue. Retentive means for maxillofacial prostheses involved the use of medical-grade skin adhesive, solvents, eyeglasses, the use of soft and hard tissue undercuts and other modalities. The prostheses may also retain with osteo-integrated implants, which had been used since 1979. Sharing UKM Medical Centre experience on treating post facial cancer surgery with non-surgical facial rehabilitation with both internal and external prostheses.

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# The effect of hypersensitivity state on chronic iatrogenic facial nerve palsy: Universiti Kebangsaan Malaysia Medical Centre Experience

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## ABSTRACT

**Objectives:** To review the management and discuss the outcome in patients with iatrogenic facial nerve palsy. **Materials and Methods:** Retrospective study in a tertiary centre. Twelve patients with iatrogenic facial nerve palsy (FNP) between June 1995 and June 2015 were evaluated. A review of medical records including site of injury operative procedure performed and post-operative facial nerve recovery based on House Brackmann (HB) Classification were evaluated. **Results:** Ten patients had iatrogenic complete facial nerve palsy (FNP) secondary to mastoidectomy, one FNP secondary to canalplasty and only one patient had FNP secondary to superficial parotidectomy. Of the nine cases five had concomitant profound sensorineural hearing loss and one had concomitant labyrinthine fistula. The injury of second genu was 50.0%. We postulate that the common cause for FNP following mastoidectomy was due to the surgeon failed to identify the antrum and the facial nerve landmarks. Four cases had injury to the tympanic segment and one at the mastoid segment and one at intraparotid facial nerve trunk. All the cases underwent facial nerve exploration and decompression. One case required cable graft reconstruction using sural nerve. In one case of facial nerve dehiscence, the FNP is secondary to thermal injury after the surgeon use unipolar diathermy to control the bleeding. Facial nerve recovery was achieved to Grade I (HB) classification in five cases and Grade II in two cases, Grade III in two cases and Grade IV in one case. Two cases defaulted the follow up. **Conclusions:** Identification of antrum and facial nerve landmarks are compulsory in any mastoidectomy. Cotton soaked with adrenalin is used to control of bleeding in the middle ear instead of diathermy. Early referral for facial nerve decompression gave better outcome of facial nerve recovery.



# The effect of hypersensitivity state on chronic suppurative otitis media

**Mohd Khairi Md Daud**

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## ABSTRACT

**Introduction:** Chronic suppurative otitis media (CSOM) is one of the most common chronic diseases worldwide. Despite the prevalence, many of the facts are not understood about the pathogenesis of CSOM and its optimal management. **Methods:** We carried out a comparative cross-sectional study to evaluate the association between allergy and CSOM. Presence or absence of CSOM was established by precise history and otoscopic examination. Skin prick test was conducted to confirm the presence of allergy in both study groups. **Results:** We have found that the prevalence of allergy at 95% confidence interval in CSOM and control groups were 59.7% (47.5, 71.9) and 30.6 % (19.1, 42.1) respectively. There was a significant association between allergy and CSOM (p-value=0.001). **Conclusion:** In conclusion, we advocate that the hypersensitivity states likely to have a role in the pathogenesis of CSOM.

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# Morbidity and mortality in cytomegalovirus (CMV) positive patients post-peripheral blood stem cell transplant (PBCT) in the Universiti Kebangsaan Malaysia Medical Center

**Asma Abdullah<sup>1,2</sup>, Muhamad Syafiq Izzat Hussain<sup>1</sup>, Nurfarahin Mohd Sukri<sup>1</sup>, Nurfadhlina Tukiman<sup>1</sup>, Nurazira Osman<sup>1</sup>, Nor Haniza Abdul Wahat<sup>1,2</sup>, Noor Zetti Zainol Rashid<sup>1</sup>, Rosnah Sutan<sup>1</sup>**

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## ABSTRACT

**Background and Aim:** Cytomegalovirus (CMV) infection is a major cause of morbidity and mortality after Peripheral Blood Stem Cell Transplant (PBSCT). This study aimed to determine the characteristics and the outcomes of CMV-positive patients' post-PBSCT. **Material and method:** A cross-sectional study was done from September 2015-2016. **Methods:** The data of PBSCT patients was retrieved retrospectively using Integrated Laboratory Management System (ILMS) and medical records. The study population was CMV- positive post-PBSCT diagnosed by quantitative polymerase chain reaction (PCR) from January 2014 until June 2016. **Results:** A total of 64 medical records were universally reviewed and 30 cases (46.9%) fulfilled the criteria. Mean age was  $\pm 11.14$  years. Twenty-three (76.7%) patients underwent allogenic and seven (23.3%) underwent autologous PBSCT. Pre-transplant CMV IgG serology was positive in 29 patients (96.7%). The median duration to detect CMV positivity post-PBSCT was 174.1. Interestingly, 25 (83.3%) patients were positive within 100 days. All patients had resolution of viraemia within  $\pm 24$  weeks after the treatment. Three patients (10%) died between 1-13 months post-PBSCT. Four patients (13.3%) had CMV end-organ disease 1-5 months (median:  $\pm 60.35$ ) post-PBSCT. Two patients (6.67%) had clinical diagnosis of CMV disease. Others developed complications such as mucositis (66.7%) and neutropenic sepsis (43.3%). **Conclusion:** Mortality rate was low (10%) among CMV-positive post-PBSCT patients. The complications of mucositis and neutropenic sepsis can be treated medically.

# Sinonasal tumour

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## **ABSTRACT**

Over the years, neoplastic lesions at the lateral nasal wall and maxillary sinus classically have been advocated to be treated via open approach. However, in great advancements of audio-visual system and endoscopic techniques, these lesions are now endoscopically excised by using delicate instruments. The speaker will describe the endoscopic excision of neoplastic diseases mainly involving the sinonasal region.

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# Management of sinonasal malignant tumours

**Hideyuki Kawauchi**

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## **ABSTRACT**

Clinical outcome of more than hundred patients with malignant tumours in sinonasal cavity have been retrospectively examined from the clinocopathological point of view. From the point of histopathology, SCCs are most frequently seen in those patients and malignant lymphoma, and melanoma are also highly ranked as well. Five-years survival rate in patients with maxillary cancer was 68.1%, in case an appropriate treatment was carried out in each patient. Five-years survival rate in patients with olfactory neuroblastoma was 37.5%. The prognosis of patients performed with skull base surgery is relatively good. Five-years survival rate in patients with adenoidcystic carcinoma was poor with 20% and recurrence occurred earlier in case of patients with high Ki-67 rebelling index tumours. Based on our results, I introduce updated treatment modalities and discuss their actual effects on the patient survival with better quality of life.

# The natural history of allergic

**Passali Giulio Cesare<sup>1</sup>, Bellussi Luisa Maria<sup>2</sup>, De Corso Eugenio<sup>1</sup>, Passali Francesco Maria<sup>3</sup>, Passali Desiderio<sup>2</sup>**

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## ABSTRACT

**Introduction:** Data emerging from various studies on increase of the prevalence of allergic rhinitis in last decades appear to be widely dishomogeneous. Another point that needs a clarification is the relationship between allergic rhinitis and lower airways pathologies such as asthma or bronchitis. **Methods:** We followed the evolution of allergic rhinitis in a group of patients in the last 30 years to highlight the efficacy of different treatments in the prevention of complications, specifically asthma. After 32 years (1980-2012) 46/73 (63%) patients completed the follow up. **Results:** Symptomatic drugs experimented maximum efficacy from 3rd to 8th year with 13 n15 patients reporting an improvement of symptoms; immunotherapy achieved the best efficacy starting from 6th to 10th year (8 out of 10 patients recovered). Subsequently, improvements lowered, in the two groups, to a steady level of 11 out of 15 and 6 out of 10 recovered patients. Asthma developed in three patients out of 46 only among not treated patients. Early intervention may change the natural course of allergic rhinitis, preventing the progression to asthma in particular immunotherapy guarantees, remission of local symptoms and valid protection against district and bronchial complications. Symptomatic treatment represents a valid alternative; it is always to be preferred to abstention from any treatment.

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## Preliminary results of integrated medical-surgical therapy for turbinate hypertrophy

**Felice Scasso**

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## ABSTRACT

Chronic nasal obstruction is one of the most common human complaints and a very frequent symptom in the ear, nose, and throat field. Hypertrophy of the inferior turbinates is the most frequent cause and it could be related to allergy, pseudoallergy, non-allergic rhinitis with eosinophilia syndrome, and iatrogenic rhinopathy. Nevertheless, nowadays hypertrophy of the inferior turbinates causes considerable suffering in most patients. Various medical approaches have been described for the treatment of this condition, but the results are only temporary. Many minimally invasive surgical techniques have been suggested: all with better long-lasting results, but inconstant. To enhance the effects of radiofrequency tissue volume reduction (RFTUR) we treated 20 patients with a therapeutic medical-surgical integration: after a corticosteroid therapy cycle for general and local routes they have been subjected to RFTUR. We evaluated the subjective and rhinomanometric results after 30, 120, 360 days of treatment to evaluate the persistence of results.

# New therapeutic strategy for CRSwNP with asthma, focusing on the concept of ‘one airway, one disease’

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## **ABSTRACT**

The concept of “one airway, one disease” or “united airway” reflects a comprehensive approach to the treatment of upper and lower airway inflammation. One of the representative diseases for this concept is known as eosinophilic chronic rhinosinusitis (ECRS) combined with asthma, and severe inflammation of the upper airways is associated with severity of asthma. The treatment of upper airway ECRS by endoscopic sinus surgery (ESS) reduces the dose of inhaled corticosteroids (ICS) used to treat asthma. Although little is known about how the effects of the resistance of upper and lower airway inflammation, there are three possible mechanisms for the observed association between upper and lower airway inflammation: 1) the nasobronchial reflex (NBR); 2) postnasal drainage of inflammatory mediators from the upper to the lower airways; and 3) the reduction of systemic mediators disseminating from the upper airways. Here we investigated the relationship between the upper and lower airways, focusing on NBR. Using a murine model, our system can simultaneously measure both upper and lower airway resistance. We found that airway resistance involved an interaction between the upper and lower airways via the cholinergic nerve and this response during allergic airway inflammation was higher than that of the negative controls. Thus, understanding the relationship between the upper and lower airways in the context of NBR sheds light on novel therapeutic strategies for ECRS accompanied by asthma. Additionally, in this symposium, we present our clinical trial that involved consisted of both an otolaryngologist and pulmonologist, as well as future perspectives, focusing on “one airway, one disease.”

## The cone beam computed tomography of the nose and paranasal sinuses: indications and aspects of radiation exposure rates

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### ABSTRACT

**Objective:** Radiologic examination are absolutely important in the diagnosis of diseases of the nose and paranasal sinuses disease and anomalies. Unfortunately, the eyes are always in the direct path of x-rays. In the last years the normal conventional computed tomography (CT) is more and more replaced by the cone beam CT (CBCT). The purpose of this paper is to evaluate the differences in exposure rates between the two radiologic methods in comparison to natural and environmental factors. **Methods:** To assess the significance we rank natural and environmental factors due to their importance. Then we compare the exposure rates of the standard CT with CBCT. We also discuss the role of "low-dose-protocols" and the influence of scattered radiation in radiology. Important examples and clinical data underlining the special aspects are demonstrated with reference to the eyes. **Results:** The advantage from the radiological point of view is the extremely low dose of radiation of the CBCT in comparison to the standard medical CT and substantial less scattered radiation. In comparison to natural or environmental factors the exposure rates are negligible. **Conclusion:** In our belief the cone-beam computed tomography (CBCT) is a very useful tool in the diagnosis of sinusitis, especially concerning the exposure of radiation referring to the eyes.

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## Silent sinus syndrome: unusual presentation of isolated upper alveolar numbness and a current literature review

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### ABSTRACT

**Objectives:** The objectives of this presentation are firstly, to describe the unusual presentation of unilateral upper alveolar numbness as a symptom of silent sinus syndrome and detail the subsequent treatment and postulated pathogenesis in the case reported. Secondly, this presentation aims to review the current literature on the relatively uncommon entity of silent sinus syndrome. **Methods:** A case of a patient with unilateral left anterior alveolar numbness, diagnosed with left silent sinus syndrome and the subsequent surgical management in a tertiary Singapore institution was reported. A comprehensive literature review of the pathophysiology, clinical and radiological features of silent sinus syndrome and its associated entity – chronic maxillary atelectasis, was carried out. **Results:** A 59-year-old Chinese male presenting with left anterior alveolar numbness was diagnosed with left silent sinus syndrome. Computed tomography imaging demonstrated bony osteitic encasement of the left anterior superior alveolar nerve within a contracted left maxillary sinus. The patient underwent successful left functional endoscopic sinus surgery (left concha bullectomy, uncinectomy and medial maxillary antrostomy) to re-establish maxillary sinus ventilation. Current theories on the aetiology, pathophysiology and management strategies of silent sinus syndrome was discussed. **Conclusion:** We present the first-ever description of isolated unilateral upper alveolar numbness in a patient with silent sinus syndrome. Chronic osteitis with resultant narrowing of the anterior superior alveolar nerve bony canal was postulated to cause nerve compression and the clinically noted paraesthesia. Recognition of the clinical features of the rare condition of silent sinus syndrome is important for appropriate management.

# The prevalence of local allergic inflammation among patients with rhinitis: a systematic review

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## ABSTRACT

**Background:** Allergic rhinitis is defined as an IgE mediated inflammation of the nasal cavity. The diagnosis is based on the systemic test for allergy using either skin test or serology. Patients with negative results are diagnosed as non-allergic rhinitis. However, local nasal allergic response may differ from the systemic evaluation. **Objectives:** To evaluate prevalence of local allergic inflammation in the nose among patients diagnosed as allergic or non-allergic rhinitis. **Methods:** Embase (1947-2015) and Medline (1946-2015) were searched on the 9th December 2015 using a search strategy. The search was for studies on allergic and/or non-allergic rhinitis patients which included local nasal intervention. Studies were limited to English language and Human subjects. All studies that provided original data on local allergic inflammation in the nose among patients with rhinitis were included. Nasal allergic inflammation was assessed either by nasal provocation test (NPT) or sampling from the nasal cavity to test for nasal specific immunoglobulin E (sIgE), nasal eosinophils or other surrogate markers of allergy. **Results:** The search returned 4504 publications. After title review, 281 studies were selected for abstract screening. Of these, 217 full texts were reviewed. Included full texts gave data involving four types of nasal intervention: NPT (n=49), nasals IgE (n=37), nasal eosinophils (n=29) and other surrogate allergy markers (n=62). Some studies which used more than one intervention were duplicated. **Conclusion:** Systemic evaluation for allergy may not accurately reflect local nasal allergic inflammation. A simple yet accurate diagnostic test in the shock organ itself is needed to evaluate patients with rhinitis.

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# Efficacy of topical tranexamic acid to reduce bleeding in endoscopic sinus surgery for chronic rhinosinusitis with polyposis

Salina Husain<sup>1</sup>, Juani Hayyan Binti Abdul Karaf<sup>1</sup>, Balwant Singh Gendeh<sup>1</sup>, Farah Dayana Zahedi<sup>1</sup>, Norfazilah Ahmad<sup>1</sup>, Teoh Jian Woei<sup>2</sup>, Fong Von Hoong<sup>2</sup>

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## ABSTRACT

**Objectives:** This study was conducted to evaluate the effect of topical tranexamic acid (TXA) on bleeding and surgery site quality during endoscopic sinus surgery. **Methods:** This trial was conducted on 30 patients with chronic sinusitis with polyposis. The two nostrils of thirty patients were randomly assigned into one nostril as intervention and contralateral as control. The intervention nostril received pledgets soaked with TXA 5% and cocaine 10% for 15 minutes before surgery, the control nostril received pledgets soaked with cocaine 10% and 1cc adrenaline 1:1000. The bleeding in surgical field were evaluated at the start and at the end of surgery using Boezaart grading by the surgeon blinded to the assignment. At the end, intervention nostril was packed with merocel soaked with TXA 5% and control nostril was packed with merocel soaked with normal saline. The amount of bleeding within 24-hour post-operation were evaluated. **Results:** There is no difference in surgical field bleeding with median of Boezaart score between intervention and control group (median score [3.00(IQR 2.00-3.75) vs 3.00(IQR 2.00-3.00), z=-0.30, p=0.762]. However, the amount of bleeding in the postoperative period was much less in the intervention group compared to the control group (p=0.037). **Conclusions:** Topical TXA can reduce postoperative bleeding and it also can be used as an alternative to reduce bleeding and improve the surgical field in FESS in patients with rhinosinusitis with polyposis.

# Cultural adaptation of Sniffin' Sticks olfactory identification test: preliminary results of the Malaysian version

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## ABSTRACT

**Introduction:** Olfaction is an essential part of life but it is often undervalued. Sniffin' Sticks olfactory identification test is a tool used for clinical evaluation of olfactory function but the results are culture- dependent, which relies on the subject's familiarity to the odorant. The aim of this study was to develop the Malaysian version of Sniffin' Sticks olfactory identification test suitable for local population usage. **Materials and Methods:** The odorant descriptors and distractors of the original version of Sniffin' Sticks (Burghart Messtechnik, Germany) were translated into Malay language using forward-backward translation method. The translated version was tested for familiarity. A satisfactory version is attained if the familiarity is  $\geq 70\%$ . The validity of the new cultural-adapted version was tested in 30 subjects with smell disorder and 30 healthy subjects with Student's t test. The test-retest reliability was tested after two weeks with interclass correlation (ICC). **Results:** Odorant descriptors and distractors that were changed to achieve familiarity  $\geq 70\%$  include "blackberry to durian", "chamomile to lavender", "chive to turmeric", "fir to pandan", "grapefruit to papaya", "mustard to ginger", "raspberry to Jack fruit", and "sauerkraut to turmeric". The mean score among the healthy subjects was significantly higher than the subject with smell dysfunction [13.7 ( $\pm 1.05$ ) and 8.9 ( $\pm 3.50$ ) respectively;  $t=7.24$  ( $df=34.23$ ),  $p<0.001$ ]. The coefficient of correlation ( $r$ ) between test and retest scores was 0.95 ( $p<0.001$ ). **Conclusions:** The preliminary findings showed that the Malaysian version of Sniffin' Sticks olfactory identification test are valid and reliable. The cultural-adapted version is recommended as one of the olfactory function tests in local population.

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## Dental or not dental - that is the sinus question! Is the virtual reality in the cone beam computed tomography diagnosis helpful?

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## ABSTRACT

**Objectives:** In sinus diagnosis one always has to decide if a chronic inflammation is caused by nasal or dental origin. Diagnostic imaging of the nose and the paranasal sinuses by "cone-beam computed tomography (CBCT)" is now a standard procedure in ENT. The newest generation are the "hounsfield-calibrated" CBCT. We can so perform a "virtual endoscopy" of the nose, the paranasal sinuses and other cavities of the dentomaxillary area. The question is if the virtual endoscopy provides any extra value to the answer of the question: dental or not dental? **Methods:** We used this technique in our daily work in over 200 cases. Every patient suspected to have a dental caused sinusitis was examined by us and a dentist. In every case a CBCT of the sinuses and a virtual endoscopy was performed. The results had been discussed by the ENT specialist and the dentist. It was either verified by dental examination or dental procedures. Important examples and clinical data underlining the special value of the virtual endoscopy are demonstrated. **Results:** We observed in all cases, that the use of virtual endoscopy enhances the knowledge and understanding of pathologic processes of the sinuses. It is indeed very helpful in detecting the origin of a sinusitis, whether it is dental or nasal. **Conclusion:** In our belief the virtual endoscopy is a very useful tool in the diagnosis of sinusitis, especially in differentiating between nasal or dental origin.

# Surgical management and outcome of juvenile nasopharyngeal angiofibroma in a single centre: a fifteen-year experience

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## ABSTRACT

**Introduction:** Juvenile nasopharyngeal angiofibroma (JNA) is a locally aggressive benign vascular tumour exclusively amongst adolescence males. General characteristics, management and outcomes of 11 cases of JNA presented to our centre between 2000 and 2015 were studied and evaluated. **Objective:** This is a retrospective study to determine general characteristics, management and outcomes amongst the local population of Kelantan, Malaysia. **Methods:** Eleven patients from the local population of Kelantan who presented between 2000 and 2015 were evaluated respectively. Demographical data, clinical presentation, duration of symptoms, stage of disease, surgical approach and outcomes of these 11 patients were reviewed and collected from the medical record office at our centre. **Results:** All 11 patients were Malay male with the average age at diagnosis being 15 years (range 11-21) years. Among the local population, predominant clinical presentation includes nasal obstruction followed by spontaneous painless epistaxis. All 11 patients were subjected to embolization prior to surgery. Surgery was the first line treatment for all our patients. Our patients were mostly subjected to endoscopic approach (37%) and combined approach (36%). Recurrence were seen in five patients (64%). Two patients underwent radiotherapy one of which was combined with chemotherapy due to intracranial involvement. None of our patients sustained major intra- or post-operative complications. **Conclusion:** Surgery combined with preoperative embolization is the main modality of treatment at our centre. Based on our observation, patients delay and refusal of surgery, ineffective embolization have led to recurrence. Timely diagnosis and management together with patient's co-operation are critical for successful outcome.

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# Inverted papilloma: a single tertiary centre 18-year experience

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## ABSTRACT

**Objective:** This study aims is to review our experience on inverted papilloma management; demography, presenting symptoms, surgical approaches, final diagnosis and rate of recurrence. **Method:** A retrospective review of patients diagnosed with inverted papilloma and underwent surgical intervention between 1999 and 2016. The entire patient underwent either external approach or endoscopic surgery at Hospital Universiti Sains Malaysia. **Result:** A total of 16 patients' medical records were reviewed. The average age of symptom onset was 45 years old (ranged from 24 to 69) with male patients predominant, consisted of total 14 and four females. Thirteen patients (81.25%) presented with nasal blockage, followed by two patients with epistaxis (12.50%) and one (6.25%) rhinorrhoea. All patients had computed tomography as the tool for diagnosis. The type of surgery performed is determined by location, extent of disease and surgeon preference. There were 12 patients (75.00%) underwent external surgical approach including one initial endoscopic case converted into external approach. Three patients (18.80%) experience recurrence during follow up 6, 12 and 13 months. Two patients (12.50%) diagnosed with sinonasal carcinoma arising from inverted papilloma. **Conclusion:** Clinical and radiological features supported by confirmatory tissue biopsy diagnosis favour early and accurate diagnosis. Inverted papilloma, albeit rare warrants complete clearance with safe margin in order to minimise recurrence and anticipating potential malignant transformation.



# A 7-year retrospective analysis of the clinicopathological and mycological manifestations of fungal rhinosinusitis in a single-centre tropical hospital

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## ABSTRACT

**Objectives:** Fungal Rhinosinusitis, is a commonly overlooked diagnosis when managing patients with Chronic sinusitis. The objective of this study is to evaluate the clinicopathological and mycological manifestations of fungal rhinosinusitis occurring in Hospital Tengku Ampuan Rahimah, Klang, Malaysia which has a tropical climate. **Methods:** Records of patients from 2009 till 2016 diagnosed to have fungal sinusitis clinically with fungal growth and histopathologic evidence were compiled and analysed retrospectively. Information obtained from the records were indexed based on age, gender, clinical presentations, duration of symptoms, clinical signs and mycologic growth. **Results:** Twenty-seven out of 80 samples (33.75%) sent were positive for fungal growth. Sixteen patients were classified under non-invasive fungal rhinosinusitis (NIFRS) and 11 patients were classified under invasive fungal rhinosinusitis (IFRS). The mean age of presentation was 49.8 and the male to female ratio was 1:1.25. The commonest clinical presentation of NIFRS was nasal polyposis ( $p < 0.05$ ) and IFRS were ocular symptoms ( $p < 0.05$ ) respectively. The commonest organism found in NIFRS was *Aspergillus* sp. ( $p < 0.05$ ) and the commonest organism isolated in patients with IFRS were Mucorales. **Conclusion:** Our study suggests that there is an almost equal distribution of both invasive and non-invasive fungal rhinosinusitis as seen similarly in some Asian countries. Invasive fungal rhinosinusitis, while slightly more uncommon than non-invasive fungal rhinosinusitis is potentially life threatening and requires early and extensive surgical debridement as part of the treatment. We have also found that the clinical presentation of nasal polyposis was often associated with NIFRS whereby ocular presentation was more often associated with IFRS.

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## Management of chyle leak following neck dissection – Universiti Kebangsaan Malaysia Medical Centre experience

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## ABSTRACT

**Introduction:** Eleven cases of chyle leak in neck dissections were reviewed between the years 2000 until 2013 at the Universiti Kebangsaan Malaysia Medical Centre (UKMMC). The main objective of this study is to highlight the methods of managing chyle leak in neck dissections in our setting. **Case Series:** Eleven cases of neck dissections with chyle leak were reported of the age between 39 and 78 years old at time of surgery. All eleven cases of chyle leak had underwent either a radical or modified radical neck dissection (MRND) for various head and neck malignancies. Six cases had intra-op thoracic duct injury which was immediately repaired with ligation technique. Chyle leak in five from the six cases completely resolved. Only one case had persistent leak post-op however, was successfully treated conservatively. Post op chyle leak occurred in five cases in this series in which all were treated with compression dressing and administration of medium chain triglyceride (MCT) diet via enteral feeding tube. One case had to undergo surgical repair at post- op day twelve. All cases of chyle leak occurred on the left side even though three cases underwent bilateral neck dissections. **Conclusion:** Detection of chyle leak whether during or post-surgery is crucial as it can prevent great morbidity. Intra operative repair with ligation method is sufficient enough to prevent persistent leak. Post op leak can be managed conservatively by compression dressing and diet modification such as MCT.

## Investigation of prognostic factors for eosinophilic chronic rhinosinusitis

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### ABSTRACT

**Background:** Chronic rhinosinusitis (CRS) can be classified into CRS with nasal polyps (CRSwNP) and CRS without nasal polyps (CRSsNP). CRSwNP displays more intense eosinophilic infiltration and the presence of Th2 cytokines. In Japan, the objective clinical criteria of refractory eosinophilic CRS (ECRS) associated with severe symptom and multiple surgery required for recurrence has been established in 2015 (called the Japanese Epidemiologic Survey of Eosinophilic Chronic Rhinosinusitis study: JESREC study). But clinical course of this disease is variable. Thus, we wanted to determine the prognostic factors of ECRS based on preoperative clinical examination. **Method:** Forty-five patients diagnosed as ECRS who had undergone ESS in our hospital were evaluated for the retrospective study. The prognostic factors chosen were as follows: history of asthma, history of aspirin intolerance, peripheral eosinophilia, total IgE, house dust mite antibody, preoperative CT score, closure of olfactory fissure on CT, fraction of exhaled NO (FeNO), presence of olfactory disturbance, severity of ECRS based on JESREC algorithm, gender and age. **Result:** We performed discriminant analysis which is one of the multivariate analyses to predict a categorical dependent variable (called a grouping variable) by one or more continuous or binary independent variables (called predictor variables). The combination of severity of ECRS, peripheral eosinophilia, history of asthma and FeNO was the highest value of canonical correlation coefficient, an indicator showing the validity of the statics. But the combination of preoperative CT score, peripheral eosinophilia, history of asthma and FeNO was almost statistically equivalent to the former one. **Conclusion:** Our study demonstrated severity of ECRS (more than severe) and preoperative CT score (more than fifteen points) were the most important prognostic factors of ECRS. Surgeons should always be careful to the patients who had such a risk factor. Post-operative long-term follow-up is also essential.

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## Congenital intranasal glioma presenting as septal polyp

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### ABSTRACT

**Introduction:** Congenital midline masses are rare anomalies. It occurs in 1:6000 live births among Asians and nasal glioma constitutes 5% of such lesions. Glioma is a misnomer as it is not a true neoplasm. It is made up of ectopic nerve tissue with neuroglial elements, glial cells within a connective tissue matrix either with or without connection to the subarachnoid space or dura. It can be divided into extranasal, intranasal or mixed lesions. 60% are extranasal; 30% are intranasal lying within the nasal cavity, mouth, or pterygopalatine fossa and 10% are mixed, dumbbell shaped lesion communicating through a defect of the nasal bones. We present a case of intranasal glioma that mimics as septal polyp. **Case Presentation:** A full term baby girl presented with left polypoidal nasal mass since birth. Rigid nasoendoscope examination revealed a soft, non-vascular mass from the caudal part of left nasal septum with right deviated nasal septum. Magnetic resonance imaging (MRI) revealed a hyperintense T2 weighted, hypointense T1 weighted soft tissue mass occupying the whole left nasal cavity with no intracranial communication seen. An endoscopic excision was performed under general anaesthesia with no peri or postoperative complications. Histopathology examination shows fragments of fibrous tissue and glial tissue (S100 positive), focally covered by respiratory and metaplastic squamous epithelium. The patient remains well without recurrence during follow up. **Conclusion:** Radiological imaging is a necessity to rule out any intracranial extension. Complete surgical excision remains as the mainstay of treatment and route of surgery depends on cases and surgical expertise available.

# Sinonasal respiratory epithelial adenomatoid hamartoma: an overlooked entity

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## ABSTRACT

**Introduction:** Respiratory epithelial adenomatoid hamartoma (REAH) is an unusual benign glandular proliferation arising from the respiratory epithelium mostly involving the posterior nasal septum. Herein, we report a classic presentation of chronic rhinosinusitis with bilateral nasal polyposis which turns out to be REAH. Albeit benign, awareness of this entity is judicious as it may masquerade a more aggressive lesion causing patients to succumb to unnecessary procedure. **Case Report:** A 51-year-old gentleman presented to our clinic with a ten-year-history of bilateral nasal obstruction followed by persistent hyposmia. There was associating rhinorrhoea, sneezing and nasal pruritis which is controlled with medication. Rigid nasoendoscopy revealed benign looking polypoidal mass over the bilateral middle meatus Grade III with no evidence of pus. Nasopharynx was normal. The CT scan of paranasal sinus revealed presence of polypoidal lesion over the bilateral maxillary sinus with opacification seen over bilateral maxillary, ethmoid and left frontal sinus suggestive of underlying sinusitis. Patient underwent bilateral functional endoscopic sinus surgery. Histopathological examination revealed fragments of polypoidal tissues lined partly by respiratory epithelium. The submucosa area exhibits proliferation of glands of variable sizes lined by ciliated respiratory epithelium. **Discussion:** REAH should be differentiated from other sinonasal lesion mainly inflammatory polyp, inverted papilomas and sinonasal adenocarcinoma. Treatment of this entity is complete local resection. Till date, there has been no recurrence, persistent, progression of this entity. Malignant transformations also have never been reported. **Conclusion:** REAH is an uncommon clinical entity which has received little attention in the otorhinolaryngology literature. Hence, REAH ought to be considered as one of the differential diagnosis of sinonasal lesions. Albeit rare, awareness of this entity is prudent as to avoid unnecessary and invasive investigations.

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## A rare differential diagnosis of sinonasal mass

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## ABSTRACT

**Introduction:** Extramedullary plasmacytoma is a rare plasma cell neoplasm involving any soft tissue which remains underdiagnosed. It commonly manifests in the head and neck region, specifically the upper aerodigestive tract. **Report:** Herein, we report a case of sinonasal plasmacytoma in an elderly gentleman who presented with a four-month history of unilateral nasal blockage. **Conclusion:** Albeit rare, extramedullary sinonasal plasmacytoma should be considered as a differential diagnosis of a sinonasal mass as mode of management of this rare entity differs. Surgical excision followed by radiotherapy is considered the ideal treatment for this entity.

# Sinus tumour

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## ABSTRACT

**Objectives:** Cholesteatoma is a relatively common disease entity within the middle ear cavity, but it is rarely found in the paranasal sinuses, making interesting the differential diagnosis of unilateral sinus masses. It is most often located in the frontal sinus, less commonly in the ethmoids and maxillary sinuses. **Methods:** We present a middle-aged woman presenting with right nasal obstruction with bleeding that refractory to medical treatment. Fiberscopy exhibits an easily bleeding whitish mass, computed tomography (CT) scan shows a relatively homogeneous, expansile lesion with bony eroding. Elevation of serum SCC antigen is notified. **Results:** Biopsy under local anaesthesia was scheduled. The keratin-like material filled the whole antrum that could be easily removed by suction. The medial antral wall and inferior turbinate were absent. Findings of the histologic review were consistent with cholesteatoma without malignant cells. Post-operative MRI revealed no existing lesion. **Conclusions:** Cholesteatoma of paranasal sinus is extremely rare and may have symptoms mimicking other intranasal neoplasms. CT scans often present an expansile lesion with sharp circumscribed bony defect with smooth margin. Differential diagnosis includes both benign and malignant paranasal lesions. The appropriate treatment for cholesteatoma is surgery. Adequate drainage and sinusostomy for post-operative follow-up are recommended.

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## Case report: a rare case of primary extranodal laryngeal non-Hodgkin lymphoma

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## ABSTRACT

Lymphoma is generally a nodal disease and arises from lymphoid tissues and organs. Extranodal lymphoma accounts for 30-40% of malignant lymphomas with gastrointestinal tract and cutaneous lymphomas top of the list. Squamous cell carcinoma accounts for 90% of laryngeal carcinoma while only 1% of laryngeal carcinoma is attributed to extranodal Non-Hodgkin Lymphoma (NHL). Only about 100 of such cases been reported in literature since 1952. As to our best knowledge, no such case was ever reported in our local literature. We are reporting a case of primary extranodal Non-Hodgkin Lymphoma of the larynx in our centre. The incidence, presentation, and management are discussed. A 58-year-old gentleman, an ex-intravenous drug user and active smoker, presented with one-month history of progressive hoarseness and worsening dysphagia but without respiratory symptoms. There was no history of neck mass, trauma or previous surgeries. He was negative for HIV. He underwent an elective tracheostomy under local anaesthesia due to airway compromise. Endoscopic, radiological and histopathological investigations revealed Non-Hodgkin Lymphoma of Diffuse Large B- cell subtype at left false cord extending to left arytenoid, left valleculae and left laryngeal surface of epiglottis. Unfortunately, the patient succumbed to hospital acquired pneumonia (HAP) on post-operative day-3. Extranodal Non-Hodgkin lymphoma in the context of ENT usually affects salivary glands, paranasal sinuses and thyroid gland. Larynx has very little lymphoid tissues compared to gastrointestinal and respiratory tract. Hence, the low incidence rate. Due to limited number of cases, no proper and definitive management guidelines, success rates and prognosis have been published. Modalities of treatments are concurrent chemoradiotherapy or just radiotherapy. Primary extranodal laryngeal Non-Hodgkin lymphoma has rather high 5-year disease-free rate except for the mantle cell lymphoma subtype which is very aggressive and poor prognosis.

# Successful treatment of suspected mucormycosis with orbital complication

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## ABSTRACT

Orbital complication of sinusitis needs ophthalmological exam because it could induce permanent visual loss. If the disease becomes worse rapidly in diabetes mellitus (DM) or immunosuppressive state, mucormycosis must be considered as differential diagnosis. We present the case of patient with rapidly progressing orbital cellulitis. An 80-year-old woman patient with uncontrolled DM was admitted to the emergency room for ocular proptosis and fever lasted for two days. Nasal endoscopy showed injection on middle turbinate and necrotic mucosa around middle meatus with blackish debris. Right eye vision was already lost, ophthalmologist considered her vision would not be returned permanently. CT image showed paranasal sinusitis and soft tissue lesion of right medial orbital area without abscess. There were no abnormalities of cavernous sinus and brain in enhance magnetic resonance imaging (MRI). Clinical findings like DM, acute aggravation and endoscopic findings were similar to that of mucormycosis. After careful consultation with ophthalmologist about orbital exenteration, we decided the emergency endoscopic sinus surgery using antifungal agent only, without orbital operation. After operation, IV maxipime 4g/day, IV metronidazole 1500mg/day and IV amphotericin B 25mg/day were administered with DM control. From the next day, proptosis and visual acuity were improved gradually. Two days after surgery, the pathology of nasal mucosa confirmed as acute inflammation with necrosis. There were no fungal organisms in methenamine silver stain. Therefore, we stopped Amphotericin and added oral prednisolone 60mg/day. Twelve days after surgery, the patient's vision was improved as much as before, and she discharged with cefditoren 400mg/day, prednisolone 30mg/day per week. The most important thing in this case is, even though the patient had visual loss for two days, she regained eyesight by emergency sinus surgery. If you think mucormycosis as differential diagnosis, it is important to establish a treatment plan quickly before pathology was confirmed. However, if you are planning orbital exenteration, you should consider it very carefully.

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## Isolated congenital anosmia

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## ABSTRACT

Congenital anosmia is commonly described in conjunction with various developmental abnormalities and has been reported to be familial. Congenital anosmia as an isolated defect in a single-family member is extremely rare. We described a case of a 5-year-old child with isolated congenital anosmia.

# Internal carotid artery injury during endonasal sinus surgery: review of literature and management guideline proposal

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## ABSTRACT

**Background:** Although iatrogenic internal carotid artery injury (ICA) is uncommon, it is a catastrophic complication of endonasal sinus surgery (ESS). Currently, there is no standard protocol for its emergency management. **Objectives:** To study the incidence of ICA injury during ESS, conduct literature review and propose protocol guidance for its emergency management. **Methods:** Retrospective review of medical records of patients who underwent ESS in Universiti Kebangsaan Malaysia Medical Centre (UKMMC) from January 1997 to July 2015. Besides, literature search on intra-operative ICA injury was conducted. **Results:** Out of 4,507 patients who underwent ESS during the study period in UKMMC, only one had intra-operative ICA injury (0.02%). A total of 26 case reports were found on literature review. Majority of the patients (14/22) had endovascular intervention either coiling embolization, balloon occlusion or stent placement. Muscle-fascia patch grafts of sphenoid sinus were associated with high incidence delayed pseudoaneurysm formation, which eventually required endovascular intervention. There were six cases (23.1%) of reported mortality. Seven patients (26.9%) had neurological complications post-intervention, five (19.2%) were permanent. Nine patients (34.6%) developed carotid pseudoaneurysm, of which five were delayed in onset. **Conclusions:** The low incidence of ICA injury during ESS in UKMMC is consistent with the results of other studies in literature. Immediate nasal packing followed by urgent angiography and endovascular stent placement is the least invasive definitive treatment. If stenting was unsuccessful, endovascular balloon occlusion or coil embolization is the next preferred treatment, provided adequate cross-cerebral circulation. The success of the management relies on multidisciplinary collaboration.

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## Laryngeal deviation: idiopathic and acquired laryngeal deviation

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## ABSTRACT

**Introduction:** Laryngeal deviation is defined as the displacement of the larynx or anterior commissure. The patients can be asymptomatic or present with hoarseness or dyspnoea. It can be classified into acquired or idiopathic. **Case Report:** We report two cases of laryngeal deviation in Sungai Buloh Hospital in which both of them presented with hoarseness. Both of the patients are more than fifty years old and have right laryngeal deviation. The provisional diagnosis was supraglottic tumour as the scope showed prominence of the left false cord which mimicked submucosal tumour. However, imaging performed showed otherwise. **Discussion:** Laryngeal deviation can be caused by several underlying pathologies such as old tuberculosis, cervical spondylosis, and cervical or thoracic surgery. It is reported that most of the idiopathic laryngeal deviation cases were male over fifty years old with right side laryngeal deviation. The cause of right deviation predominance is speculated due to tethering effect of the arch of aorta towards the trachea. The problem which is associated with laryngeal deviation is left false vocal cord protrusion which appears like submucosal tumour of larynx or hypopharynx. Erosion of the thyroid cartilage, which was present in case two, might be due to primary laryngeal carcinoma or post-traumatic injury. Computed tomography and magnetic resonance imaging are diagnostic tools to identify underlying pathologies such as masses at the larynx or hypopharynx. **Conclusion:** Problem that may arise in these cases is the dilemma of making a correct diagnosis as deviated larynx caused protrusion of false cord, which mimics a submucosal tumour. Difficult intubation must be anticipated if these patients were to undergo general anaesthesia.

# Varicella zoster causing preseptal cellulitis – uncommon but possible

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## ABSTRACT

**Background:** Varicella has been known to be a harmless disease in childhood. However, it has been reported that severe complications have taken place following varicella infection, in both immunocompetent as well as immunocompromised individuals. Cutaneous complications of varicella may manifest as preseptal cellulitis, albeit rare. **Report:** We present a case of a 4-year-old boy who presented with symptoms and signs of preseptal cellulitis following varicella infection. He was referred to the otorhinolaryngology team for a nasoendoscopy to rule out sinusitis, in view of the fear that a child presenting with a swollen red eye may be a true orbital cellulitis. He was treated successfully with intravenous antibiotics and surgical drainage of preseptal collection. **Conclusion:** It is imperative for clinicians to be aware that a simple varicella infection may lead to cutaneous complications in the paediatric age group, especially in children who are four years or younger. They may develop preseptal cellulitis, which presentation might mimic that of orbital cellulitis. Empirical treatment with antibiotics would be advantageous for the patient. A nasoendoscopic examination may also be warranted in these cases to rule out sinusitis as a cause of orbital cellulitis.

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# An adenoid cystic carcinoma of the nasal septum

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## ABSTRACT

Adenoid cystic carcinoma (ACC) of the nasal septum is a rare disease of the head and neck. This elusive cancer is despite its locoregional control improvement over the years may cause distant metastasis years after definitive treatment. Reliable prognostic factors were identified over the years and their implications are immense especially with regards counselling and therapeutic planning. We present a case of nasal septum ACC with perineural invasion. Endoscopic excision of the tumour was performed. The patient received adjuvant radiotherapy due to resection margins.

# Extragenital germ cell tumour of the neck

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## ABSTRACT

**Introduction:** Paediatric germ cell tumour comprises of numerous neoplasms which exhibits variable clinical presentation and histological features. Yolk sac tumour, otherwise known as endodermal sinus tumour is an extremely rare malignant tumour of embryonic origin. **Case Report:** Herein, we report a rare case of yolk sac tumour of the neck in an infant, initially diagnosed as mature teratoma. Histopathological examination of the initial excised mass was mature teratoma. However, biopsy of the recurrent mass exhibited features of yolk sac tumour. **Conclusion:** Yolk sac tumour, albeit rare warrants attention amongst clinicians as early diagnosis has significant influence on clinical outcome and survival amongst infants. We highlight the presentation and management of this rare entity.

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# Idiopathic bilateral antral exostoses: a rare case report

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## ABSTRACT

**Objectives:** Paranasal sinus exostoses have been recognised as a complication of nasal irrigation with cold solution after nasal surgery. However, a few reported cases are idiopathic without history of nasal surgery and receiving nasal irrigation. **Methods:** We present a healthy and asymptomatic patient referred from dentistry clinic due to calcified lesion found by panoramic radiograph incidentally. Under the suspicion of ectopic teeth in the maxillary sinus, computed tomography was performed. **Results:** Computed tomography (CT) without contrast medium images are obtained, exhibiting different size and form of bony protrusions in both maxillary sinuses. Antral exostoses is diagnosed. The patient denies having a history of nasal irrigation, and therefore the aetiology is unclear. **Conclusions:** Diagnosing the antral exostoses is difficult due the asymptomatic nature of this condition, even though endoscope can't clearly show the lesion inside the antrum. Sometimes this condition is related with nasal irritants, however in some cases the mechanism is unknown. The appearance of exostoses within the paranasal sinuses could be mistaken for more ominous processes, subjecting the patient to unnecessary procedures or therapy. The radiologic appearance of these lesions should be distinguished from other osteogenic diseases.



# Case report: a rare case of a teenager with metastatic nasopharyngeal carcinoma involving the chest wall

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## ABSTRACT

Nasopharyngeal carcinoma (NPC) in teenagers with isolated chest wall metastasis is so rare that no such case was ever reported in literature. Nasopharyngeal carcinoma accounts for up to 5% of all primary cancers in children and less than 30% of nasopharyngeal cancers. Incidence of NPC had two peaks: the initial peak is in the late adolescence/early adulthood (15-24 years old); and another peak later in life (65-79 years old). A 15-year-old boy presented with progressively enlarging bilateral neck swelling over five-month duration associated with one-month history of vague, ill-defined, diffuse left sided chest pain. No chest mass was seen or palpable. Endoscopic, radiological and histopathological examinations established the diagnosis WHO type III undifferentiated nasopharyngeal carcinoma with cervical lymph nodes and isolated chest wall metastasis. He underwent chemotherapy at a tertiary oncology centre. He was responding well with ongoing chemotherapy initially but when followed up after four cycles of chemotherapy revealed liver, spine and bone metastasis. No lung parenchyma metastasis seen. Chest wall metastasis usually originated from adjacent structures such as lungs or breast malignancy. Lung malignancy also involves chest wall via intrapulmonary and hilar lymphadenopathy pathway. Our patient was negative for lung and adjacent structure malignancy. Hence, it was solely chest wall metastasis from the NPC. Survival rate is approximately 71% for juvenile NPC with treatment but they have high recurrence and distant metastasis rate of approximately 39%. WHO Type 3 undifferentiated nasopharyngeal carcinoma is the most common type and have the best prognosis compared to the other types. It is important to recognise the features of NPC and the fact that it does affect paediatric patients too. Early referral to ENT specialty for prompt management improves prognosis.

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# Evaluation of a new and simple classification for endoscopic sinus surgery in chronic rhinosinusitis and paranasal sinus cysts

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## ABSTRACT

**Objective:** No universal operative classification for endoscopic sinus surgery (ESS) has yet been established. In 2013, the Japanese Rhinologic Society proposed a simple classification for ESS. This classification consists of five procedures (Type I, fenestration of the ostio-meatal complex; Type II, single-sinus procedure; Type III, poly-sinus procedure; Type IV, pan-sinus procedure; Type V, extended procedure beyond sinus wall). The clinical relevance of this classification in chronic rhinosinusitis (CRS) and paranasal sinus cyst was evaluated. **Methods:** 122 patients (195 sinuses) who underwent ESS in Okayama University Hospital in 2012 were enrolled. The relationships between the ESS classification and the clinical course, including operation time, bleeding amounts during surgery, and postoperative changes of olfaction, the computed tomography (CT) score, and nasal airway resistance were analysed. **Results:** A total of 195 ESS procedures were classified into Type I (n=3), Type II (n=17), Type III (n=91), Type IV (n=82), and Type V (n=2). The major phenotypes of type II, III, and IV ESS were paranasal sinus cyst (68%), CRS without nasal polyps (77%), and CRS with nasal polyps (55%), respectively, and the difference was significant. The degree of ESS based on this classification was positively and significantly correlated with operation time and bleeding amounts. As a whole, olfaction, CT score, and nasal airway resistance were significantly improved postoperatively. The degree of improvement was similar between type III and type IV ESS. **Conclusions:** This simple classification for ESS reflects the perioperative burden. Proper selection of ESS with this classification can achieve a substantial improvement after surgery.

# Paracaval internal carotid artery injury during endoscopic repair of cerebrospinal fluid leak: a case report and its emergency management

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## ABSTRACT

**Introduction:** Internal carotid artery (ICA) injury during endonasal sinus surgery (ESS) is uncommon with the incidence of 0% to 0.1%. Revision ESS is often considered to have increased risk of complications due to altered anatomy and scarring. **Report:** A 52-year-old man who had recurrent cerebrospinal fluid fistula due to encephalocele, underwent endoscopic repair under general anaesthesia. Massive haemorrhage occurred during sphenoidotomy. The surgical field was cleared with large bore suction catheter followed by immediate packing of sphenoid sinus with ribbon gauze. Urgent carotid angiography revealed injury to paracaval portion of left ICA with significant flow limitation to the left middle cerebral artery. Endovascular stent was inserted but unfortunately thrombosed within 15 minutes, and thus removed. Balloon test occlusion showed satisfactory cross flow from the contralateral right ICA and vertebral arteries to left cerebral hemisphere. Endovascular embolization of the left ICA was performed by deployment of total of 12 coils preserving the posterior communicating artery and ophthalmic artery. Angiography post coiling showed complete occlusion of the left ICA and no leakage from the injured site. Throughout the procedure, the patient's airway was secured by endotracheal intubation. Anaesthesiologist resuscitated and closely monitored the hemodynamic status to maintain optimal cerebral circulation. He had watershed cerebral infarct with right hemiparesis post-embolization but completely resolved at six weeks after intensive rehabilitation. **Conclusions:** Despite the low reported incidence, the increasing prevalence of patient undergoing ESS makes understanding of the management of ICA injury essential to otorhinolaryngologists. In the event of occurrence of this devastating complication, well-preparedness and immediate management may reduce patient's morbidity and prevent mortality. The success of the effective management of an iatrogenic ICA injury depends on the multidisciplinary team collaboration.

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# Septorhinoplasty, initial learning experience and outcomes: a preliminary report

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## ABSTRACT

**Introduction:** Autologous grafts are accepted as gold standard for use in septorhinoplasty and had been shown to be superior to alloplastic grafts. The autologous costal cartilage graft is considered a versatile choice for Asian noses which mostly required augmentation rhinoplasty and a substantial amount of cartilage to achieve best aesthetic results. **Objective:** This study described the outcomes and complications in our centre's early experience of using the autologous costal cartilage in septorhinoplasty. **Methods:** We retrospectively reviewed all patients with functional and/or aesthetic nasal problem who had undergone open septorhinoplasty using the costal cartilage graft in the Otorhinolaryngology Department at Universiti Kebangsaan Malaysia Medical Centre (UKMMC), Kuala Lumpur between August 2009 and November 2011. There were 26 patients, consisting of 15 males and 11 females from different Malaysian and Asian ethnic groups. The mean age was 27.5 years with range from 15 to 49 years. **Results:** The functional and aesthetic outcomes were comparable to previous studies using autologous costal cartilage graft with more than 70% postoperative patients' satisfaction. The complications encountered in this study were due to infection, warping and exposure of cartilage. **Conclusion:** Judicious selection of patients and operative techniques is important in the use of costal cartilage graft in septorhinoplasty with possibility of complication in mind.

# A postero-superiorly located variant of the sphenopalatine foramen and artery

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## **ABSTRACT**

Sphenopalatine artery ligation is a surgical remedy for severe epistaxis. Its topographical anatomy varies. Reliable landmark such as the crista ethmoidalis may be absent. This procedure required extensive knowledge of the various anatomical variants. These variations are crucial, and they dictate the outcome of the surgery. We present a peculiar case of a postero-superiorly located variant of the sphenopalatine foramen and artery.

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# Cases of iatrogenic cerebrospinal fluid (CSF) rhinorrhoea: immediate management is crucial

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## **ABSTRACT**

Endoscopic sinus surgery (ESS) is the standard treatment for rhinosinusitis, which failed medical therapy. Following this, it appears the most common cause for iatrogenic cerebrospinal fluid (CSF) rhinorrhoea. Iatrogenic CSF rhinorrhoea warrants immediate repair of the leakage. The commonest sites for CSF leakage are cribriform plate, fovea ethmoidalis, and anterior ethmoids. Thus, knowledge of patient's anatomy and training performance of surgical technique are crucial to avoid the complications. We presented five cases of iatrogenic CSF rhinorrhoea due to ESS and their management. To the best of our knowledge, this is the largest series of patients with CSF leak due to injury to the skull base during ESS has been reported in the English literature.

# Case series: a variety of clinical manifestation and diagnostic challenge in laryngeal tuberculosis

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## ABSTRACT

Laryngeal tuberculosis is one of the most common form of extrapulmonary tuberculosis with otorhinolaryngeal manifestation. It may occur as a secondary infection from the lungs or as an isolated primary infection. We reported three cases of secondary laryngeal tuberculosis with different laryngeal symptoms and different clinical findings, which poses difficulty in making a clinical diagnosis of laryngeal tuberculosis. Tuberculosis of the larynx should be one of the differential diagnoses in patient who presented with any laryngeal symptoms, including hoarseness, odynophagia and dysphagia. Tissue biopsy of the lesion should be obtained for histopathological and microbiological examination to reach the diagnosis and to exclude malignancy.

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## Laryngeal lipoma: a case report

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## ABSTRACT

**Objective:** To present a case of laryngeal lipoma in an elderly and discuss its management. **Report:** An elderly gentleman presented with frequent throat clearing and foreign body sensation over the throat. Examination revealed a submucosal mass at laryngeal surface of epiglottis on the left side extending to the left false cord. Patient underwent endolaryngeal laser excision under general anaesthesia. Histopathological examination showed of fatty tissue and a diagnosis of laryngeal lipoma was made. **Conclusion:** Even with its rarity, laryngeal lipoma should be kept in mind as a differential diagnosis When dealing with patients presenting with a submucosal mass in the larynx.

# Kartagener's syndrome a rare cause of massive polyposis and recurrent sinusitis

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## ABSTRACT

Kartagener's syndrome is a rare, autosomal recessive genetic ciliary disorder comprising the triad of situs inversus, chronic sinusitis, and bronchiectasis. The basic problem lies in the defective movement of cilia, leading to recurrent chest infections, ear/nose/throat symptoms, and infertility. We reported a case of young girl presented with recurrent sinusitis with massive polyposis which was not respond to usual treatment. Nasoendoscopic examination revealed very thick nasal secretion with massive nasal polyp which involve all paranasal sinuses confirmed by CT scan. Chest x-ray was performed due to high suspicious of Kartagener's syndrome clearly show dextrocardia. She underwent Functional Endoscopic Sinus Surgery to open all the sinuses and remove the polyp. Post operatively, regular follow up was needed to clear the thick secretion retained in the paranasal sinuses even though it was opened widely during the operation. She also developed recurrent polyposis despite of compliant steroid nasal spray administration. The correct diagnosis of this disorder in early life is important in the overall prognosis of the syndrome, as many of the complications can be prevented if appropriate management is done. It may exhibit variable and atypical clinical presentations and severity due to its multisystem involvement and reverse positioning of internal organs. Although there is no specific treatment for this clinical entity, failure to diagnose this may subject the patient to unnecessary repeated admissions, investigations and inappropriate treatment.

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# Rare angiosarcoma of inferior turbinate; a case report and literature review

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## ABSTRACT

Angiosarcoma is a rare soft-tissue sarcoma. It is an aggressive, malignant endothelial cell tumour of vascular or lymphatic in origin. Angiosarcoma accounts for 2% of all sarcomas and over half of it occurred in head and neck region. Its treatment is challenging with a poor prognosis. We presented a case of angiosarcoma of inferior turbinate occurring in a 73-year-old man who presented with left neck swelling for two weeks with a friable mass arising from posterior end of left inferior turbinate. FNAC of the left neck swelling showed atypical cell with a suspicious of malignancy and Computed tomography scan of neck and paranasal sinuses showed an enhancing lobulated mass at the posterior aspect of left inferior turbinate. Histopathological examination of the mass revealed a vascular tumour in favour of angiosarcoma (FNCLCC Grade 3).

# Baseline nasal profile of young Malay adults

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## ABSTRACT

**Introduction:** Ethnic specific normal baseline morphology should be used when planning plastic and reconstructive surgery for selected patients. **Objective:** In this study, we aimed to generate baseline nasal profile and nasal index of young Malay adults and investigate the relationship of the nose to the face using facial aesthetic angles. In addition, the aim was to investigate sexual dimorphism in all the profiles. **Methods:** A cross-sectional study was performed in the Otorhinolaryngology Department of a tertiary referral centre. The subjects consist of 117 female and 113 male healthy volunteers who are Malays up to three generations without any inter-racial marriages. Direct anthropometry was used for six linear measurements and photogrammetry technique were used to obtain three facial aesthetic angles, nasal length and nasal rotation. Nasal index and type were calculated from the data collected. **Results:** There were thirteen profiles included. Significant gender dimorphism was seen in ten out of thirteen profiles ( $p < 0.05$ ). The results of all linear measurements were significantly greater in male ( $p < 0.05$ ) as compared to female except for the columellar length ( $p = 0.073$ ) and tip projection ( $p = 0.475$ ). The nasomental and nasofrontal angles are significantly larger in female ( $p < 0.05$ ). The nasal index showed dominant of mesorrhine type of nose in both genders. **Conclusion:** This study has provided a database for baseline nasal profile and facial aesthetic angles in young Malay adults and demonstrated patterns of variation in male and female that can be used in surgery and forensic work.

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# Botox injection for bilateral vocal cord immobility: a case report

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## ABSTRACT

**Objective:** This is a report of an adult with complex bilateral vocal cord immobility treated with serial Botox injection. **Case Report:** We report a patient who had history of bilateral temporomandibular joint fixation and Pierre Robin sequence presenting with bilateral vocal cord immobility and very limited airway. The patient was treated with emergency tracheostomy and subsequently received 2.5IU Botox injection of right thyroarythenoid to improve the glottal airway. Tracheostomy was successfully decannulated following the first Botox injection. He received another 5IU Botox injection of left thyroarythenoid muscle using thyrohyoid approach after 10 months of first injection. He was successfully decannulated after two months and able to maintain satisfactory effort tolerance with free tracheostomy. **Conclusion:** We conclude that Botox injection is an unusual yet beneficial treatment option for bilateral vocal cord immobility.

# The quality of life in chronic rhinosinusitis with nasal polyposis patients with long term usage of clarithromycin in post functional endoscopic sinus surgery

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## ABSTRACT

**Objective:** To evaluate the efficacy of long-term macrolide as an adjuvant therapy in prevention of early recurrence of polyps in patients with chronic rhinosinusitis with nasal polyposis post functional endoscopic sinus surgery (FESS). **Methodology:** The medical records of patients with chronic rhinosinusitis with nasal polyposis who underwent functional endoscopic sinus surgery from 2011 till 2015 were reviewed. Post-operatively, the patients were treated with three different modalities. Group 1 received 2 weeks of Clarithromycin (Klacid MR, 500mg/day). Group 2 received long term (six weeks) of Clarithromycin and Group 3 were those receiving non-macrolide antibiotics. The recurrence of polyposis was compared between the three groups at 1-, 3- and 6-months post FESS using endoscopic score and Sino Nasal Outcome Test-22 (SNOT-22). Electrocardiogram was performed in all patients who received macrolide therapy. Data were analysed using SPSS version 24.0. Wilcoxon signed rank tests were performed to evaluate data. **Results:** A total of 40 adult patients were reviewed during the study period. There was no significant difference in all the parameters at 1-month post FESS. At 3-months, the endoscopic score showed statistically significant in Group 2 (with long term Clarithromycin)  $p < 0.05$ . Overall, the study showed lower recurrence of polyposis in Group 2 Clarithromycin in all parameters at 6-months post FESS. **Conclusions:** Long term Clarithromycin is effective as an adjuvant therapy in prevention of early recurrence of nasal polyps. No significant electrocardiogram changes were detected in all patients with long term use of Clarithromycin.

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# An intranasal mass with two pathologies: sphenoidal osteoma and angiofibroma

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## ABSTRACT

Osteoma is the most common benign tumour of the nose and paranasal sinuses. However, involvement of the sphenoid sinus by osteoma is rare. Juvenile nasopharyngeal angiofibroma is a highly vascular, benign, yet locally invasive tumour that occurs in preadolescent males. We present a case of a 22-year-old male with incidental finding of osteoma in unusual location and angiofibroma was later discovered histopathologically at the same site.

# Extramedullary plasmacytoma of the frontal sinus secondary to multiple myeloma – a rare case of disease progression and relapse

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## ABSTRACT

**Background:** Extramedullary plasmacytoma (EMP) is a rare disease involving the paranasal sinuses. It is an abnormal proliferation of monoclonal plasma cell in the extramedullary tissue and has tendency progressing into multiple myeloma. EMP accounts for 1% of head and neck malignancy and about 80% of cases with EMP occurs in the upper respiratory tract. **Case Report:** A 56-year-old lady, was diagnosed with multiple myeloma in which was treated with chemotherapy. Three-month post completion of chemotherapy, she developed rapid onset of painless left upper eyelid which was associated with diplopia and reduced vision. Clinical examination revealed a firm, non-tender, protruding mass on the left upper eyelid, extending from superior orbital rim towards lid margin. The vision of the left eye was to counting fingers. There were no associated nasal symptoms. Magnetic resonance imaging (MRI) of the brain and orbit reported a heterogeneous enhancing mass occupying the superior and lateral aspect of the extraconal region of the left orbit. There was evidence of cortical break at the inner wall of the left frontal sinus. The mass was extending into the left frontal sinus. Histopathological report of the tissue biopsy showed evidence of plasma cell myeloma with periorbital tissue involvement. Radiotherapy was commenced, and she responded well. Unfortunately, she developed relapse of her multiple myeloma and another relapse of EMP on her right forearm. For this, she has to undergo another cycle of chemo-radiotherapy. **Conclusion:** In view of its sensitivity to irradiation, EMP is best treated with radiotherapy. However, in the case presented in which there were disease progression and relapse, chemo- radiotherapy was instituted.

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# Spontaneous pseudomeningocele of sphenoid sinus or sphenoid mucocele? a diagnosis dilemma

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## ABSTRACT

**Introduction:** Pseudomeningocele is an abnormal collection of cerebrospinal fluid (CSF) in the soft tissue that is not surrounded by arachnoid membranes. Any defects in the skull base can lead to spontaneous herniation of meningeal membranes and present as meningocele or meningoencephalocele. Bony defect may be small and clinically silent until a breach in the meninges appears, leading to a cerebrospinal fluid (CSF) leak. Typical presentations in anterior cranial fossa include CSF rhinorrhoea and pulsatile or compressible nasal mass covered by attenuated meninges and mucosa. **OBJECTIVE:** To report a rare case of spontaneous pseudomeningocele of sphenoid sinus. **Report:** We describe a case of pseudomeningocele of sphenoid sinus in a 28-year-old gentleman. He presented to neuroendocrine with delayed puberty with diminished facial, axillary and genitalia hair, associated with headache. Otherwise, no rhinorrhoea, nasal congestion or eye symptom was reported. No history of head trauma or base of skull surgery. Blood investigations showed hyperprolactinemia and hypotestosteronemia. Computed tomography (CT) scan revealed an expansible mass over bilateral sphenoid sinuses with complete erosion of intersinus septum and mass effect on the sella turcica and pituitary gland. Magnetic resonance imaging (MRI) features supported the diagnosis of sphenoid mucocele. Transnasal endoscopic sphenoidotomy was performed to drain the mucocele. Intraoperatively, despite an anatomical puncture through the sphenoid ostium, alarmingly, the opening leaked out CSF. A dehiscence over left posterior wall was identified with a dural opening communicating with the left sphenoid sinus. The optic nerve and internal carotid artery were exposed. This was repaired with multilayer technique using fat, fascia lata graft, and nasal septal mucosal flap. Clinical improvement was observed post-operatively with no evidence of CSF leak and hypopituitarism. **Conclusion:** Pseudomeningoceles of base of skull are rare in the absence of trauma or iatrogenic injury. Surgeons should be alert to their presence as they can mimic a mucocele or nasal polyp.



# Endoscopic nasopharyngectomy for locally recurrent nasopharyngeal carcinoma in Penang General Hospital

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## ABSTRACT

**Introduction:** Nasopharyngeal Carcinoma (NPC) is common in Asia with a male preponderance. Management of recurrent NPC remains challenging, surgery being an option when the recurrent tumour is resectable via minimally invasive endoscopic approach. The objectives of the study are to determine demographics, tumour characteristics, and outcome of endoscopic nasopharyngectomy in Penang Hospital. **Methodology:** Patients with locally recurrent NPC and who underwent endoscopic nasopharyngectomy between January 2011 and December 2013 were followed up for post-nasopharyngectomy recurrence. Cox regression was used to determine likelihood of recurrence for various risk factors. **Results:** Thirteen patients underwent nasopharyngectomy all of which were rT1 to T2a. Only one patient had unclear margins. There were four patients who experienced local recurrence. Three patients passed away, two due to recurrence. The likelihood of recurrence for unclear margins was 105 times higher than those with clear margins (HR=104.944, p=0.439). The local control rate was 69.32% at mean follow up duration of 16 months. **Discussion/Conclusion:** Endoscopic nasopharyngectomy is favourable in small locally recurrent nasopharyngeal tumours, with minimum morbidity and mortality.

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# Retropharyngeal and parapharyngeal abscess with extensive mediastinum involvement

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## ABSTRACT

Combination of retropharyngeal abscess (RPA) and parapharyngeal abscess (PPA) with extension into mediastinum is a rare incident. Tonsillo-pharyngeal and dental infections are top on the list that drains or extends into those spaces followed by foreign body ingestion. Abscess in any one of those spaces have the potential to extend into one another due to the close proximity. Hence, these abscesses can occur separately or collectively. Only two similar paediatric cases being reported in literature while to our best knowledge, no adult case have been reported. We report a case of a diabetic elderly who was treated in a peripheral hospital as neck cellulitis in sepsis when he presented with dysphagia, odynophagia, hoarseness, lethargic and left sided diffuse neck swelling of six-day duration. He was subsequently sent to a tertiary centre with the suspicion of pulmonary embolism few days later when he developed persistent supraventricular tachycardia (SVT), chest discomfort and dyspnoea. Extensive retropharyngeal and parapharyngeal abscess with significant anterior and superior mediastinum involvement was unintentionally revealed by computed tomography (CT) scan with the initial aim to assess pulmonary embolism. Huge air pocket was also seen at retropharyngeal, surrounding the trachea, great vessels and right side of pericardium. There was no radiological evidence of pulmonary embolism. He fully recovered after a series of neck surgeries and prolonged duration of highly potent intravenous antibiotics to eradicate several types multi-drug resistant community-acquired and hospital-acquired bacteria over a period of two months. Several other cases performed thoracostomy to drain the mediastinal abscess, but we successfully drained the extensive mediastinal abscess in our patient solely via neck incisions as he was not clinically stable for a thoracic surgery. The mediastinal abscess in our patient was more extensive compared to other cases in literature.

# Non-lethal midline granuloma amidst Klebsiella infection: a diagnoses conundrum

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## ABSTRACT

**Introduction:** Non-lethal midline granuloma of the nose is an extremely rare entity and has a completely different course of disease from lethal midline granuloma. The histopathological picture is reported to be identical to its lethal counterpart, showing pleomorphic cellular infiltration, scattered areas of necrosis and vasculitis, however the clinical picture showed good prognosis. The pathological process is self-limiting and totally confined to the nose, sparing the palate, the lips and other facial structures. Klebsiella species that commonly affect the nose are the Klebsiella Rhinocleromatis and Klebsiella Ozaenae which usually cause chronic rhinitis features in patient. Klebsiella species are also known to infect wound on the skin and can cause destructive changes such as necrosis, inflammation, and haemorrhage within lung tissue. **Report:** We are reporting a case of a 48-year-old Indonesian gentleman who presented with one-week history of an initially a pimple on his left alar which ruptured and started to increase in size and discharging pus. The lesion progressively became necrotic and involved the left face up to the orbital rim, and down to the upper lip, sparing the nasal cavity. Patient also developed left lung empyema. He was extensively investigated with differentials of tuberculosis, leprosy, NKT cell lymphoma, fungal infection and cutaneous leishmaniasis being considered. Culture and biopsy both from his nose and lung isolated Klebsiella species with features of non-lethal midline granuloma at the nose. The nose lesion was debrided surgically, and he recovered well with antibiotics. We discuss the management and outcome of this rare case.

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## Barium: aspiration and ramification

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## ABSTRACT

Barium swallow is a popular imaging method used for the diagnostic investigation of unintentional weight loss and dysphagia with a mechanical element. However, it is associated with occasional or rare aspirations which poses a significant morbidity and mortality risks, often overlooked in day to day practice as evident in our case report. A 67-year-old gentleman of Chinese ethnicity was investigated for a six-month history of progressively worsening dysphagia with solids and liquids associated with poor oral intake. A flexible laryngoscopy revealed unremarkable true and false cords with no pooling of saliva, unsuspecting of any aspiration. He underwent a barium swallow to rule out a mechanical course. The patient was aspirating silently and aspirated significant amounts of barium contrast into his right bronchus. Although barium relatively inert, its volume of ingestion affects prognosis as it promotes lung injury with neutrophil sequestration and oedema. Barium dispersed into the lower airways with in a 'tree branch' appearance. Barium may occupy peribronchial interstitial tissue and become phagocytosed by alveolar macrophages leading to fibrosis. Mortality rates with barium aspiration may vary with a range of 30 to 50% among patients whom develop initial shock or apnoea, secondary pneumonia or Adult Respiratory Distress Syndrome (ARDS). He developed chemical pneumonitis with ARDS requiring invasive ventilation but passed away one week later. In conclusion a thorough swallowing assessment should be performed prior to upper contrast studies in dysphagic patients.

# A rare von Recklinghausen's disease with oral and parapharyngeal space manifestation

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## ABSTRACT

Neurofibromatosis (NF) type 1 (von Recklinghausen disease) is a genetic disorder that occurs in 1 of 4000 births<sup>1</sup>. It is inherited in an autosomal dominant pattern with variable penetrance; however, as many as 50% of cases may result from spontaneous mutation. The disease results from a defect in a tumour suppressor gene on chromosome 17, which leaves affected individuals at risk for developing a variety of benign and malignant tumours. The disease is often characterised by complex and multicellular neurofibroma, café au lait spot and Lisch nodule in the iris which form the cardinal features in diagnosing Von Recklinghausen disease. It affects both genders equally and has no particular, geographic or ethnicity predilection. The anatomical compartmentalization in head and neck region leads to a multitude of variable clinical presentation, such as asymmetrical pendulous masses, when these areas are afflicted with neurofibromas. Neck neurofibromatosis usually arises from deep neck nervous structures most commonly vagus nerve and cervical spinal rootlets. We report a case of a von Recklinghausen disease patient with oral and also deep neck space manifestation.

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# Evaluation of rapid test specific IgE IVT Kit (Malaysia Profile) against skin prick test in allergic rhinitis - a pilot study

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## ABSTRACT

**Introduction:** Allergic rhinitis is common in otorhinolaryngology practice. Sensitization to certain allergen need to be identified for allergen avoidance either with skin prick test or specific IgE test. Before this, specific IgE test in our centre is a laboratory investigation. This study was carried out to evaluate the result of rapid test specific IgE IVT kit (office based) as compared to skin prick test. **Materials And Methods:** Seven patients with allergic rhinitis underwent skin prick test and office based specific IgE test using Rapid Test Specific IgE IVT Kit (Malaysia Profile) at Allergy Unit, Otorhinolaryngology Clinic, Universiti Kebangsaan Malaysia Medical Center. The results of both tests were evaluated and compared. **Results:** Five patients demonstrated positive results in both skin prick test and rapid test specific IgE IVT kit. One patient had positive rapid test specific IgE but negative skin prick test. One demonstrated negative in both tests. Four of them showed comparable results of Dermatophagoidespteronyssinus, Dermatophagoidesfarina. Only one patient showed similar results of food allergens. **Conclusion:** Rapid test Specific IgE IVT Kit is one of the office-based tests that can be done in patient that have contraindication for skin prick test. However, further study needs to be performed to see the accuracy of the results as compared to skin prick test and laboratory quantitative specific IgE test.