

## **A NEW PARADIGM IN MANAGING OBSTRUCTIVE SLEEP APNOEA: THE MULTIMODAL, MULTILEVEL AND MULTISTEP APPROACH.**

**ALIUȘ Ruxandra Oana, ȘTEFANESCU Cristian Dragos, VOIOSU Catalina, IONITA Irina Gabriela, PULPA Oana Raluca, RUSEȘCU Andreea, HAINAROSIE Razvan**

**Abstract:** *With the increase in unhealthy habitual changes and obesity, obstructive sleep apnoea syndrome (OSA) has become a common medical condition in the general population. Its high prevalence of about 26% and indiscriminate nature makes it a significant public health issue with reverberations in all socio-economical domains. OSA is defined as a repetitive, partial, or complete collapse of the upper respiratory tract during sleep that leads to episodes of hypoxia and sleep interruptions. Currently, its gold standard treatment consists of positive air pressure delivered through various devices which will only resolve some of the symptoms without addressing their cause. Hence, we propose a new approach to diagnosing and treating obstructive sleep apnoea based on a Multistep, Multimodal and Multilevel protocol, called the Three Ms algorithm. Using this protocol one can address all causes and consequences of sleep apnoea leading to increased adhesion to treatment and better overall outcomes.*

**Keywords:** *obstructive sleep apnea, three M's, multilevel, multistep, multimodal.*

## **DIAGNOSTIC ALGORITHM OF CEREBROSPINAL FLUID RHINORRHEA**

**BONETA Cristian Dan, ZAINEA Viorel, ȘTEFANESCU Cristian Dragos, IONITA Irina Gabriela, PIETROSANU Catalina, RUSEȘCU Andreea, ALIUȘ Ruxandra Oana, PULPA Raluca Oana, HAINAROSIE Razvan**

**Abstract:** *Cerebrospinal fistula, also called cerebrospinal fluid leak, represents a rare but potentially devastating condition characterized by a bony defect of the skull base with disruption of the arachnoid, dura and sinonasal mucosa, which leads to a discharge of clear fluid into the nasal cavity. According to different etiologies, CSF leaks may be classified into two main categories: traumatic, which can be divided into accidental and iatrogenic and non-traumatic, which is associated with brain tumors, spontaneous and meningoencephaloceles. This paper describes the clinical presentation and gives specific attention to the diagnostic algorithm of cerebrospinal fluid rhinorrhea. The present work represents a review of the literature and summarizes the current practice regarding the diagnosis of cerebrospinal fluid rhinorrhea.*

*Cerebrospinal fluid leak represents a challenging pathology with high risks requiring innovative techniques for early diagnosis. A detailed and rapid evaluation of the location and cause that determined the defect through which the cerebrospinal fluid is externalized guides the therapeutic conduct.*

**Keywords:** *cerebrospinal fluid leaks, cerebrospinal fluid rhinorrhea, diagnostic algorithm*

## INTRACRANIAL INVASION OF EXTENSIV FRONTAL SINUS CARCINOMA - CASE REPORT

**PARASCHIVESCU Iuliana Cosmina, ZAINEA Viorel, IONITA Irina-Gabriela, VOIOSU Catalina, RUSESCU Andreea, ALIUS Ruxandra Oana, PULPA Raluca Oana, STEFANESCU Cristian Dragos, HAINAROSIE Razvan**

***Abstract:** The frontal sinus carcinoma is a rare tumour arising from an area with complex regional anatomy, causing nonspecific symptoms during its early stages and often requiring a multidisciplinary approach. Most cases have a poor prognosis, because of delayed hospital presentation, during stage II or III, when 10-15% have already invaded adjacent structures or metastasized. Optimal treatment of frontal sinus malignancies is still debated. A multimodal approach consisting of surgical resection followed by radiotherapy and chemotherapy offers the most benefits in terms of survival rate and local tumour control. In order to emphasize the complexity of diagnosing and managing this type of malignancy, the authors present the case of a 61-year-old man with a frontal sinus carcinoma extending into the cranial vault.*

***Keywords:** squamous cell carcinoma, frontal sinus, surgery, resection*

## MANAGEMENT AND TREATMENT OF SINONASAL INVERTED PAPILOMA

***Abstract:** Sinonasal inverted papilloma is a benign lesion that arises from the nasal cavity and paranasal sinuses, and it can be locally aggressive. Inverted papilloma has a high recurrence rate and the possibility of malignant transformation. Over the past years, the progress in endoscopic sinus surgery has revolutionised the management of such sinus neoplasms. The preoperative imagistic assessment is mandatory to evaluate tumour extension and its exact location. In order to ensure complete resection, it is essential to identify the origin of the tumour, its' vascular pedicle. Ideally, the resection should be performed en bloc, but due to tumoral extension, intensive bleeding and particular endonasal anatomy, piecemeal endoscopic excision can be performed. Either way, the surgeon must ensure a total resection in order to avoid recurrences. Proper endoscopic and imaging follow-up is needed to secure tumour free long-term results.*

***Keywords:** inverted papilloma, endoscopic sinus surgery, radiological evaluation*

## MANAGEMENT OF NASOPHARYNGEAL CARCINOMA – CASE REPORT

**ȘERBAN Gabriel, ZAINEA Viorel, STEFANESCU Cristian Dragos, VOIOSU Catalina, IONITA Irina Gabriela, PULPA Oana Raluca, RUSESCU Andreea, ALIUS Ruxandra Oana, HAINAROSIE Razvan**

**Abstract:** *Nasopharyngeal carcinoma (NPC) is an epidermoid cancer type of the upper part of the pharynx. It is characterised as being highly invasive locally and metastasise frequently. Because the lymphatic drainage is still not clearly understood, radiotherapy is often recommended bilaterally, even in the low level of ganglionic metastasis. We present a case of a 36-year-old male with a single, unilateral cervical mass, without other lesions visible on head and neck CT or fiberoptic examination.*

*Neck biopsy revealed a poorly differentiated carcinoma of an unknown primary site.*

*Empirically, an ipsilateral nasopharyngeal biopsy was performed with a negative result. Next, a PET-CT was performed, which revealed a hypermetabolic lesion on the contralateral side of the nasopharynx.*

*Radiotherapy with induction chemotherapy was initiated. 6 months follow-up showed no sign of residual tumour. Through this paper the authors aim is to emphasise the possible midline crossing of the nasopharynx's lymphatic system and to highlight the use of bilateral adiotherapy in N1 level nasopharyngeal carcinoma.*

**Keywords:** *nasopharyngeal carcinoma, N1 nodule, radiotherapy, lymphatic drainage*

## **ORBITAL COMPLICATIONS MANAGEMENT IN ACUTE SINUSITIS**

**ANTOHI Daniel, ZAINEA Viorel, IONIȚĂ Irina-Gabriela, VOIOSU Cătălina, RUSESCU Andreea, ALIUS Ruxandra Oana, PULPA Raluca Oana, STEFANESCU Cristian Dragos, HAINĂROSIE Razvan**

**Abstract:** *Acute rhinosinusitis represents a bacterial or viral infection of the paranasal sinuses, with an evolution shorter than four weeks. Although being uncommon, orbital complications can be severe, ranging from eyelid edema to blindness. The primary cause of orbital damage is represented by sinusitis, especially from the ethmoid sinus, which is separated from the orbit by a thin wall, lamina papyracea. The paper aims to present the nonsurgical and surgical management of orbital complications in acute rhinosinusitis*

*Chandler's classification divides the orbital complications into 5 stages. Stage I and II are treated with IV third-generation cephalosporins and metronidazole, nasal decongestant drops, mucolytics, and saline irrigation. Surgery is performed in case of no response to the medical treatment or worsening of the symptoms, and stages III, IV, and V with affected visual acuity and limited eye movement.*

*Orbital complications require a careful evaluation in a multidisciplinary team. Besides clinical presentation, computed tomography is mandatory for the correct staging of the disease and for choosing the right approach. Endoscopic sinus surgery is considered to be the gold standard in rhinosinusitis and in treating its complications. Depending on abscess localization, it can become a mixed approach (endoscopic and open surgery) . Stages I and II of Chandler's classification can be successfully treated with conservative therapy.*

**Keywords:** *acute sinusitis, orbital complications, endoscopic surgery*

## **RAMSAY HUNT SYNDROME: OVERVIEW AND FACTS**

**CRANGA Gabriela, ZAINEA Viorel, IONITA Irina-Gabriela, VOIOSU Catalina, RUSESCU Andreea, ALIUS Ruxandra Oana, PULPA Raluca Oana, STEFANESCU Cristian Dragos, HAINAROSIE Razvan**

***Abstract:** Ramsay Hunt syndrome (RHS) is an uncommon complication of varicella-zoster virus infection. The history, clinical findings and neurological examination are primarily used to make the diagnosis. It is typically characterized by unilateral peripheral acute facial nerve palsy (incomplete or complete), sensorineural hearing loss, ipsilateral otalgia and erythematous vesicular eruption. When typical skin lesions of painful rash with fluid-filled blisters are present on the external ear with or without oropharyngeal mucosa involvement, the diagnosis is relatively straightforward, but it can be elusive if they are not - “zoster sine herpete”. Because of the anatomical complexity and broad function of the facial nerve, it can cause various clinical symptoms. It may also involve multiple lower cranial nerves, which is cranial polyneuropathy associated with herpes zoster. Correct and early identification, as well as prompt management, play an essential role in full recovery because severe sequelae can persist even after treatment.*

***Keywords:** Ramsey Hunt, facial nerve palsy, herpetic eruptions*

## **RECONSTRUCTIVE OPTIONS IN CASE OF NASAL PYRAMID SQUAMOUS CELL CARCINOMA SURGICAL TREATMENT - CASE REPORT**

**DAVITOIU-LESU Carmen, ZAINEA Viorel, STEFANESCU Cristian Dragos, IONITA Irina Gabriela, PIETROSANU Catalina, RUSESCU Andreea, ALIUS Ruxandra Oana, PULPA Raluca Oana, HAINAROSIE Razvan**

***Abstract:** Squamous cell carcinoma of the nasal pyramid is a sporadic malignant tumor; thus, its classification and surgical treatment, also implying the reconstruction of the nose, are challenging for the surgeon. Nevertheless, this type of tumor accounts for less than 1% of all types of head and neck cancers.*

*This article aims to discuss the surgical conduct regarding the case of an 81-year-old patient who came to our clinic with a giant tumor of the nasal pyramid. The most critical element in means of nasal reconstruction is creating a stable framework. Another goal of any nasal reconstruction is to maintain or restore the normal function and shape of the nose with local or regional flaps.*

*Multidisciplinary management of the tumor and a correct reconstruction algorithm are essential for an excellent postoperative result. Reconstructive surgery can be combined with oncological treatment in the cases in which patients present with advanced stages.*

***Keywords:** nasal pyramid carcinoma, squamous cell carcinoma, surgical treatment, reconstructive nasal surgery*

## RECURRENT RESPIRATORY PAPILLOMATOSIS: A REVIEW TODAY

**CIMPEANU Cristiana Andreea, ZAINEA Viorel, IONITA Irina Gabriela, VOIOSU Catalina, RUSESCU Andreea, ALIUS Ruxandra Oana, PULPA Oana Raluca, STEFANESCU Cristian Dragos, HAINAROSIE Razvan**

**Abstract:** *Recurrent respiratory papillomatosis (RRP) is a chronic disease that can affect both children and adults and is caused by the human papillomavirus. The initial presenting symptom is progressive dysphonia, stridor, hoarseness. Currently, no curative treatment for RRP is available. The only therapeutic conduit consists of repeated microlaryngoscopy procedures to remove the papillomas.*

*The introduction of prophylactic vaccines, including HPV6 and HPV11, is an essential step in order to reduce the incidence of RRP. The PubMed database was searched, and a full-text review for select articles was performed. As studies show, there has been a decline in RRP incidence in multiple countries such as Australia, following the national vaccination program. Systemic Bevacizumab treatment seems to be effective in several diseases, even in RRP.*

**Keywords:** *Recurrent respiratory papillomatosis (RRP); Human papillomavirus HPV; vaccine; Bevacizumab.*

## RHINOSINUSAL MUCORMYCOSIS-OPPORTUNISTIC BLACK FUNGUS DURING COVID 19 PANDEMIC

**IRESU-IARU Alexandru, IONITA Irina Gabriela, STEFANESCU Cristian Dragos, Voiosu Cătălina, RUSESCU Andreea, PULPA Raluca-Oana, ALIUS Ruxandra Oana, ZAINEA Viorel, HAINĂROSIE Răzvan**

**Abstract:** *Coronavirus disease 2019 (COVID-19) pandemic represents a difficult period for all worldwide, but there is a category of patients at higher risk than others, namely the immunosuppressed patients. This category can develop various deteriorating bacterial or fungal coinfections. In addition, the incidence of opportunistic fungal infections, like mucormycosis, increased in the last year. These opportunistic pathogens affect mostly unvaccinated against COVID-19, immunocompromised patients suffering from compromising conditions, for example, uncontrolled diabetes mellitus. The authors want to report two similar cases of rhinosinus mucormycosis. Both patients are suffering from uncontrolled type II diabetes mellitus, are unvaccinated against COVID-19 and recently discharged from another hospital after a COVID-19 infection, where their therapy included, among others, high doses of systemic corticosteroids and broad-spectrum antibiotics. These patients were admitted to our clinic on the same day. Our therapeutical management consisted of wide-spectrum antibiotics, antifungal therapy and surgery. Both patients had a favorable outcome. Extended corticosteroid therapy, combined with broad-spectrum antibiotics in immunocompromised COVID-19 patients, can lead to opportunistic and dangerous diseases.*

**Keywords:** *COVID-19, mucormycosis, black fungus*

## THE ENDOSCOPIC APPROACH IN THE TREATMENT OF NASOPHARYNGEAL JUVENILE ANGIOFIBROMA – EXTENDING THE LIMIT

**CATANA Mihai, ZAINEA Viorel, STEFANESCU Cristian Dragos, VOIOSU Catalina, IONITA Irina Gabriela, PULPA Oana Raluca, RUSESCU Andreea, ALIUS Ruxandra Oana, HAINAROSIE Razvan**

**Abstract:** Juvenile nasopharyngeal angiofibroma is a benign tumor, found in male patients, usually during puberty, with local invasive character and massive hemorrhagic risk due to the very rich vascularization of this tumor. The positive diagnosis of nasopharyngeal angiofibroma is made with the help of imaging investigations (CT, MRI), but also with videofibroscopic evaluation (white light endoscopy and narrow band imaging) and preoperatively it is necessary to perform an embolization for a better control of intraoperative bleeding. The treatment of juvenile nasopharyngeal angiofibroma is eminently surgical, it can be performed by endoscopic approach, open surgical approach, or by combined approach. This paper aims to make a comparison in the surgical treatment of juvenile nasopharyngeal angiofibroma between the endoscopic and the classic surgical approach, but also to highlight the limitations of the first. The endoscopic surgical approach is superior to the classic one due to its minimally invasive character and the highlighting of hidden areas that can be controlled endoscopically, but it has its limitations depending on the evolutionary stage of the disease. When the tumor cannot be completely removed endoscopically, conversion to a classic surgical approach or the use of a mixed surgical approach from the start may be necessary. The surgical approach to juvenile nasopharyngeal angiofibroma is dependent on the surgeon's experience because endoscopic techniques require an increased learning curve. Despite its benign nature, nasopharyngeal angiofibroma should be treated with great care given the major risk of bleeding, and preoperatively the embolization of the main arterial branches that vascularize the tumor will be performed. The treatment of this tumor is recommended to be done in a multidisciplinary team consisting of an ENT surgeon, a doctor from the department of interventional radiology, and in rare cases, a radiotherapist and an oncologist are needed for adjuvant therapy.

**Keywords:** juvenile nasopharyngeal angiofibroma, surgical procedures, endoscopic approach.

## THE MANAGEMENT OF OROPHARYNGEAL BLEEDING IN ENT MALIGNANCIES

**Abstract:** Patients with malignant ENT tumors are at high-risk bleeding due to the location of the tumors nearby large vessels of the neck, the radiotherapy and chemotherapy used to treat the lesions or to complete the surgical treatment, as well as the biological alterations in an oncologic patient and the long-term use of nonsteroid anti-inflammatory drugs. Different types of biomaterials and technologies have been discovered and are nowadays applied to stop hemorrhages for external or intravenous use. For external injuries, considerable researches have been done for developing hemostatic technologies like glues, tourniquets, bandages, pro-coagulant powders and dressings. On the other hand, controlling internal

*bleeding continues to depend on transfusion of whole blood or coagulation factors, platelets and fibrinogen.*

*The importance of surgery in stopping the bleeding will be discussed in this article, as sometimes biomaterials are unenviable or less efficient.*

***Keywords: hemorrhage, head and neck squamous cell carcinoma, hemostasis***