Pan Arab Rhinology Society
PARS Reader's Digest

Reader Digest

Digested by Dr. Tarek Kandil, MD. ENT Consultant, students Hospital, Cairo University

Introduction

This newsletter is intended to provide information that is useful to the student and specialist in the field of rhinology and allergic disorders.

The selected recent material represents important fundamental knowledge, current trends or recent developments in this field.

We hope that this newsletter will help the reader have a greater understanding of rhinology and allergic disorders

1. COVID-19 and ENT Surgery

V Couloigner 1, S Schmerber 2, R Nicollas 3, A Coste 4, B Barry 5, M Makeieff 6, P Boudard 7, E Bequignon 4, N Morel 8, E Lescanne 9, French Society of Otorhinolaryngology, Head, Neck Surgery (SFORL); French College of Otorhinolaryngology, Head, Neck Surgery; French Syndicate of ENT Specialists (SNORL)

Abstract

In Otorhinolaryngology - Head and Neck Surgery, clinical examination and invasive procedures on the respiratory tract and on airway-connected cavities, such as paranasal sinuses and the middle ear, expose people to direct transmission of SARS-CoV-2 by inhalation or ocular projection of contaminated droplets, and to indirect transmission by contact with contaminated hands, objects or surfaces. Estimating an R0 of COVID-19 at around 3 justified postponing non-urgent face-to-face consultations and expanding the use of teleconsultation in order to limit the risks of SARS-CoV-2 infection of patients or health workers and comply with the lockdown. The health authority recommends cancellation of all medical or surgical activities, which are not urgent as long as this does not involve a loss of chance for the patient. The purpose of this cancellation is to significantly increase critical care capacity, prioritise the reception of patients with COVID-19, prioritise the allocation of staff and provision of the equipment necessary for their medical or surgical management, and contribute to the smooth running of downstream critical care within their establishment. Another goal is to reduce the risks of patient contamination within healthcare facilities. This document provides guidance on how to proceed with and adapt ENT surgery in the current pandemic context, as well as on the management of postponed operations. This best practice advice must of course be adapted in each region

according to the development of the epidemic and pre-existing arrangements. Their local application can only be decided within the framework of collaboration between the ENT teams, the operational hygiene units and all the other specialties concerned

Eur Ann Otorhinolaryngol Head Neck Dis . 2020 May;137(3):161-166

2. Frequency and outcome of olfactory impairment and sinonasal involvement in hospitalized patients with COVID-19

Maryam Jalessi 1, Mitra Barati 2, Mohammad Rohani 3, Elahe Amini 4 5, Anis Ourang 2, Zahra Azad 1, Farideh Hosseinzadeh 1, Francesco Cavallieri 6 7, Reza Ghadirpour 8, Franco Valzania 6, Corrado Iaccarino 8, Arman Ahmadzadeh 9, Mohammad Farhadi 10

Abstract

Background: Olfactory dysfunction has shown to accompany COVID-19. There are varying data regarding the exact frequency in the various study population. The outcome of the olfactory impairment is also not clearly defined.

Objective: To find the frequency of olfactory impairment and its outcome in hospitalized patients with positive swab test for COVID-19.

Methods: This is a prospective descriptive study of 100 hospitalized COVID-19 patients, randomly sampled, from February to March 2020. Demographics, comorbidities, and laboratory findings were analyzed according to the olfactory loss or sinonasal symptoms. The olfactory impairment and sinonasal symptoms were evaluated by 9 Likert scale questions asked from the patients.

Results: Ninety-two patients completed the follow-up (means 20.1 (± 7.42) days). Twenty-two (23.91%) patients complained of olfactory loss and in 6 (6.52%) patients olfactory loss was the first symptom of the disease. The olfactory loss was reported to be completely resolved in all but one patient. Thirty-nine (42.39%) patients had notable sinonasal symptoms while rhinorrhea was the first symptom in 3 (3.26%). Fifteen patients (16.3%) had a taste impairment. Patients with sinonasal symptoms had a lower age ($p = 0.01$). There was no significant relation between olfactory loss and sinonasal symptoms ($p = 0.07$).

Conclusions: Sudden olfactory dysfunction and sinonasal symptoms have a considerable prevalence in patients with COVID-19. No significant association was noted between the sinonasal symptoms and the olfactory loss, which may suggest that other mechanisms beyond upper respiratory tract involvement are responsible for the olfactory loss

Neurol Sci . 2020 Sep;41(9):2331-2338.

3. Orbital cellulitis, sinusitis and intracranial abnormalities in two adolescents with COVID-19

Roger E Turbin 1, Peter J Wawrzusin 1, Nicole M Sakla 2, Christin M Traba 3, Kristin G Wong 4, Neena Mirani 5, Jean A Eloy 6, Esther A Nimchinsky 7

Abstract

We review two cases of adolescents with orbital cellulitis, sinusitis and SARS- CoV-2 infection presenting to emergency departments within a 24 hour period. SARS-CoV-2 samples obtained within 24 hours were positive, supporting prior infection despite relatively limited early symptoms of COVID-19. Unusual clinical and radiographic characteristics included hemorrhagic abscess with blood of varying age in the first, intracranial epidural abscess in the second, radiographic signal consistent with hemorrhagic or thrombotic phenomena, retro-maxillary antral fat changes, and meningeal enhancement or extension in both cases. Radiographic findings thereby mimic fungal infection, although final cultures and ancillary investigation for allergic and invasive fungal disease have remained negative. These cases highlight two unusual orbital presentations of cellulitis occurring in the context of SARS-CoV-2 co-infection

Orbit. 2020 Aug;39(4):305-310.

4. Airborne Precautions

Binish Ather 1, Taaha M. Mirza 2, Peter F. Edemekong 3

Excerpt

An airborne disorder is any disease that is caused by a microorganism that is transmitted through the air. Many clinically important airborne diseases are caused by a variety of pathogens including bacteria, viruses, and fungi. These organisms may be transmitted through sneezing, coughing, spraying of liquids, spread of dust, talking, or any activity that results in the generation of aerosolized particles. It is important to be aware that airborne diseases, in general, do not include disorders caused by air pollution, poisons, smog, and dust. According to the World Health Organization, “Airborne transmission of infectious agents refers to the transmission of disease caused by dissemination of droplet nuclei that remain infectious when suspended in air over long distance and time.” Airborne transmission can be characterized as obligate or preferential depending on whether it is only transmitted via droplet nuclei or if it has multiple other routes of transmission. The microorganisms transmitted by an airborne route may be spread via fine mist, dust, aerosols, or liquids. The aerosolized particles are generated from a source of infection such as an infected patient or animal. In addition, aerosols may be generated from biological waste products that accumulate in garbage cans, caves, and dry arid

containers. In aerosolization, the microorganisms that are less than 5 micrometers in size float in the air. These microorganisms, contained in droplets, are then dispersed via air currents to varying distances and can be inhaled by susceptible hosts. Although a majority of the particles will drop off within the vicinity, the infected aerosolized particles often remain suspended in air and may even travel considerable distances, . As the distance between the source and susceptible individuals increases, the rate of transmission decreases. Airborne transmission necessitates the use of available interventions in healthcare facilities to break the transmission of airborne particles from patient to patient and patient to healthcare workers. Airborne particles are considered highly infectious as they often remain suspended in the air and travel by air currents to different parts of the hospital where there is a potential of them being inhaled by others. In some cases where there is inadequate ventilation, the airborne particle may remain in the hospital room for extended periods and may even be inhaled by a newly admitted patient. The control and prevention of airborne transmission of infections is not simple; it requires the control of airflow with the use of specially designed ventilation systems, the practice of antiseptic techniques, wearing personalized protective equipment (PPE), and performing basic infection prevention measures like hand washing. **Airborne Organisms In** almost all cases, airborne pathogens cause an inflammatory reaction of the upper airways affecting the nose, sinuses, throat, and lungs. The involvement of these structures may result in sinus congestion, sore throat, and lower respiratory tract symptoms. Any coughing or sneezing activity may then generate aerosolized particles leading to airborne transmission. Some of the common pathogens that may spread via airborne transmission are: This is a non-exhaustive list that only encompasses some of the common diseases that have been implicated in airborne transmission. A special note to be made is regarding COVID-19, the 21st century pandemic which is thought to spread through airborne routes (among other routes). Active measures to prevent airborne transmission has shown to curb its spread. Airborne diseases are not exclusive to humans and can also infect animals. A notable example is of poultry that is often affected by an avian disorder (Newcastle disease), that is also transmitted via an airborne route. However, it is important to understand that exposure to an animal or a patient with an airborne disease does not automatically ensure disease transmission. The infection also depends on the host immunity, the amount of exposure, and the duration of exposure to the infected patient. **Airborne Particles Generated from Medical Equipment** Besides patients, several medical and surgical procedures may also generate aerosolized infectious particles. In most cases, these airborne particles are generated during the manipulation of the lung airways. These include: Care must be taken while performing the above medical procedures on patients known to have diseases with high transmissibility through airborne routes .

In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan.

2020 Jun 28.

5. Ability of Bedside Ultrasonography to Detect Pediatric Nasal Bone Fractures

Emre Gökçen 1, Atakan Savrun 2, Mikail Kuşdoğan 1, İbrahim Çaltekin 1, Levent Albayrak 1, Dilek Atik 1, Sevilay Vural 1, Şeyda T Savrun 2, Gökhan Yıldırım 3

Abstract

Objectives/hypothesis: The aims of this study were to evaluate the diagnostic test features of bedside ultrasonography in pediatric patients with nasal trauma and to investigate whether it is a preferable alternative method to conventional radiography (CR).

Study design: Cross-sectional prospective study.

Methods: This prospective study was conducted from March 1, 2019, through November 1, 2019. Thirty-one patients under the age of 18 years who had nasal trauma were consecutively included. CR and ultrasonographic imaging tests were investigated in patients with clinical indications for nasal bone fracture. The sensitivity, specificity, and accuracy of ultrasonography and CR were calculated with respect to detecting nasal fractures according to the gold standard method.

Results: Participants were between 3 and 16 years old and the median age was 8 (5-13) years. Nasal bone fracture was clinically detected in 18 patients. While 13 of these fractures were detected with ultrasonography, only 11 were also detected with CR. The sensitivity and specificity of ultrasonography and CR in detecting nasal fractures were 72.2% (95% confidence interval [CI]: 46.5-90.3) and 76.9% (95% CI: 46.2-95.0) for ultrasonography and 61.1% (95% CI: 35.8-82.7) and 69.2% (95% CI: 38.6-90.9) for CR.

Conclusions: According to the results of this study, ultrasonography may be used with confidence as a first imaging method in the investigation of nasal fractures, particularly with consideration for avoiding the effects of radiation as much as possible. Our findings point to the next step of conducting trials with a greater number of patients in order to define the diagnostic test features of ultrasonography in pediatric patients

Laryngoscope. 2020 Oct 3.

6. Polymicrobial Skull Base Osteomyelitis Related to Chronic Sphenoiditis and Endoscopic Sinus Surgery

Zachary Shellman 1, Matthew Coates 1, Naveed Kara 1

Abstract

Skull base osteomyelitis (SBO) secondary to endoscopic surgery for chronic sinusitis and post-operative sphenopalatine artery electrocautery has not been previously reported. This case report details an instance of Central SBO with an unusual microbiology profile and highlights the need to readily consider SBO should patients present with persistent headache and cranial nerve palsies following sinus surgery. Laryngoscope,

Laryngoscope. 2020 Sep 29.

7. Current perspectives on imaging and treatment of juvenile angiofibromas : A review

Maximilian Linxweiler 1, Umut Yilmaz 2

Abstract

Clinical issue: Juvenile angiofibroma is a benign tumor, whose surgical treatment may be complicated due to intraoperative hemorrhage. The tumors appear as well circumscribed, reddish masses, which often extend into the complete nasal cavity and nasopharynx.

Standard radiological methods: Diagnosis is based on computed tomography (CT) and magnetic resonance imaging (MRI) with angiography to identify supplying blood vessels.

Standard treatment: Open resection.

Innovation in treatment: The endoscopic endonasal resection is the therapy of choice and may be combined with open surgery after endovascular embolization. Radiation or hormone therapy are alternatives for patients with very advanced tumors or high surgical morbidity. Depending on location and age of the patients, residual tumors after surgery can be watched only or treated with radiotherapy.

Performance: Preoperative endovascular embolization lowers intraoperative blood loss by about 70%, induces tumor shrinkage, and facilitates resection. The endonasal approach will lower the peri- and postoperative morbidity.

Recommendation: An endonasal approach combined with preoperative endovascular embolization should be preferred over open resection, but requires expertise as well as modern

endoscopy and navigation equipment. MRI follow-ups should be performed regularly until after puberty. Recurrence after puberty is very uncommon

Radiologe. 2020 Oct 6.

8. Prognostic Factors of Sinonasal Squamous Cell Carcinomas Arising De Novo and From Inverted Papilloma

Yunxia Li 1, Chengshuo Wang 1 2, Ru Wang 1 2, Jiamin Zhang 1, Honggang Liu 3 4, Qian Shi 1 2, Xiaohong Chen 1 2, Lizhen Hou 1 2, Hongzhi Ma 1 2, Qi Zhong 1 2, Pingdong Li 1 2, Ling Feng 1 2, Shizhi He 1 2, Luo Zhang 1 2, Jugao Fang 1 2 4

Abstract

Background: The prognostic factors and survival difference between inverted papilloma (IP)-associated sinonasal squamous cell carcinoma (SCC) and de novo SCC are unclear.

Objective: This study aimed to compare the clinical features and oncologic outcomes in patients with IP-associated SCC and de novo SCC; and additionally, to analyze the prognostic factors of the two types of SCCs.

Methods: Data from 173 SCC patients treated for IP-associated SCC (n = 89) and de novo SCC (n = 84), were reviewed retrospectively for demographic features, tumor characteristics, treatment modality, and clinical outcomes. 5-year overall survival (OS) and disease free survival (DFS) was analyzed using the Kaplan-Meier method, and Cox proportional hazards model was used to analyze factors influencing prognosis.

Results: A higher proportion of IP-associated SCC occurred in frontal and sphenoid sinus compared to de novo SCC. The two groups demonstrated similar 5-year OS and DFS (5-year OS: 63.3% and 55.4%, DFS: 45.4% and 50.1%, respectively). The metachronous tumor had a relatively better prognosis outcome than synchronous tumor and de novo SCC (5-year OS: 73.1%, 54.5% and 55.4%, respectively). Both groups showed similar loco-regional recurrence rates ($p > 0.05$); however, de novo SCC tumors demonstrated an increased incidence of distant metastasis. Multivariate analysis indicated that age >70 years, advanced tumor stage and surgical margin were independent predictive factors for the risk of mortality (HR 2.047, 1.581 and 1.931, respectively).

Conclusion: IP-associated SCCs have an aggressive loco-regional tendency, whereas de novo SCCs have a higher aggressive distant metastatic propensity. Age, tumor stage and surgical positive margin are key factors for poor prognosis and should be routinely taken into consideration during treatment planning and subsequent surveillance.

Am J Rhinol Allergy. 2020 Jul 12;1945892420939422.

9. The comparison of nasal irrigation outcome between 3% NaCl and 0.9% NaCl in adults majority with intermittent allergic rhinitis: A randomized double-blind study

Kedsaraporn Yata 1, Chonticha Srivanitchapoom 1

Abstract

Background: Management of allergic rhinitis with oral antihistamine and steroid nasal spray are the standard treatment which is recommended by Allergic Rhinitis and its Impact on Asthma guidelines. In addition, nasal irrigation as an adjuvant therapy also provides a satisfactory result.

Objective: To compare the treatment outcome in adults majority with intermittent allergic rhinitis who receive different concentrations of nasal irrigation.

Methods: The prospective randomized double-blind study was performed in 80 patients. All patients were prescribed oral antihistamine and nasal irrigated solution between 3% NaCl and 0.9% NaCl. Nasal congestion and rhinorrhea were evaluated at baseline, first and second weeks after treatment. Assessments were measured by nasal congestion visual analog scale rhinorrhea visual analog scale, inferior turbinate size, and peak nasal expiratory flow rate (PNEFR). A p value of < 0.05 was considered statistically significant.

Results: There were 40 patients in each group of the study. Patients reported satisfactory experience after using saline irrigation at first and second weeks in both solutions (p value < 0.001). However, when compared between groups, no significant differences for all parameters were reported. PNEFR showed good results after the first week of 3% NaCl irrigation (p value $= 0.001$), while 0.9% NaCl had good results after the second week (p value < 0.001).

Conclusions: Both add-on treatments have a significant improvement of all 4 parameters assessed in the study: nasal congestion, rhinorrhea, inferior turbinate size and PNEFR. Of note, 3% NaCl but not 0.9 NaCl had improved the PNEFR earlier from 1 week of the treatment.

Asian Pac J Allergy Immunol. 2020 Oct 17.

10. Management of patients with chronic rhinosinusitis during the COVID-19 pandemic - An EAACI Position Paper

L Klimek 1, M Jutel 2 3, J Bousquet 4 5, I Agache 6, C Akdis 7, V Hox 8, P Gevaert 9, P V Tomazic 10, C Rondon 11, C Cingi 12, S Toppila-Salmi 13, A Karavelia 14, B Bozkurt 15, U Förster-Ruhrmann 16, S Becker 17, A M Chaker 18, B Wollenberg 18, R Mösges 19, T Huppertz 20, J Hagemann 20, C Bachert 21 22 23, W Fokkens 24

Abstract

Background: CRS is regarded as a chronic airway disease. According to WHO recommendations, it may be a risk factor for COVID-19 patients. In most CRSwNP cases, the inflammatory changes affecting the nasal and paranasal mucous membranes are type-2 (T2) inflammation endotypes.

Methods: The current knowledge on COVID-19 and on treatment options for CRS was analyzed by a literature search in Medline, Pubmed, international guidelines, the Cochrane Library and the Internet.

Results: Based on international literature, on current recommendations by WHO and other international organizations as well as on previous experience, a panel of experts from EAACI and ARIA provided recommendations for the treatment of CRS during the COVID-19 pandemic.

Conclusion: Intranasal corticosteroids remain the standard treatment for CRS in patients with SARS-CoV-2 infection. Surgical treatments should be reduced to a minimum and surgery preserved for patients with local complications and for those with no other treatment options. Systemic corticosteroids should be avoided. Treatment with biologics can be continued with careful monitoring in non-infected patients and should be temporarily interrupted during the course of the COVID-19 infection.

Allergy. 2020 Oct 19.