Can simple chronic otitis lead to sensorineural hearing loss?

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Introduction: Chronic otitis media affects millions of people worldwide. According to the classification by Bluestone and Kenna, non-cholesteatomatous chronic otitis media is considered the most common part of chronic otitis media, which has tympanic membrane perforation with episodes of intermittent otorrhea and hearing loss of different degrees. The association with conductive hearing loss is well known, however, the relationship with sensorineural hearing loss is still controversial in the literature; some studies show the relationship of this pathology with damage to the inner ear that brings a serious problem in terms of personal quality of life and social impairment.

Objective: To evaluate the association of sensorineural loss in patients with unilateral non-cholesteatomatous chronic otitis media in a tertiary hospital.

Methods: Quantitative cross-sectional study, retrospective analysis of data recorded in electronic medical records of patients undergoing unilateral tympanoplasty surgery between 1984 and 2019 at Hospital Governador Celso Ramos, Florianopolis.

Results: In 172 patients evaluated, sensorineural hearing loss was found in the ears diagnosed with non-cholesteatomatous chronic otitis media in 27.9% compared to the contralateral ear. Observed at middle frequencies, 2000 Hz prevalence of 29.1%, that increases directly proportional to the increase in frequencies, reaching 58.7% at 4000 Hz. There was an association with disease duration, perforation size and otorrhea ($p < 0.001$).

Conclusion: Sensorineural hearing loss is associated with non-cholesteatomatous chronic otitis media and, the longer the duration of the disease, the worse the progression which starts in the middle frequencies and becomes even more prevalent in the higher frequencies. Reason for the importance of early surgical treatment.

Keywords: Otitis media; Hearing loss; Sensorineural hearing loss.

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Alcohol sniff test (AST): Tool for screening suspected cases of COVID-19

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Objective: To evaluate the efficacy of alcohol sniff test as a predictor of SARSCoV2 infection in patients with flu syndrome.

Methods: A cross-sectional observational study was conducted between September and December 2020 in the employees of a tertiary hospital who presented mild influenza syndrome. A total of 103 individuals participated in the study, divided into three groups: flu-like syndrome and RT-PCR test positive for COVID-19; flu syndrome and negative RT-PCR test for COVID-19 and an asymptomatic control group. All patients were submitted to olfactory evaluation through the alcohol sniff test.

Results: Of the 103 individuals studied, 35 (33.98%) had flu-like symptoms and positive RT-PCR, 38 (36.89%) had flu-like symptoms and negative RT-PCR and 30 (29.12%) were asymptomatic. The overall mean distance of the AST test was 10 ± 8.2 cm. There was a statistically significant difference between the mean distance of the COVID+ groups (4.35 ± 4.1 cm) and the control group (20 ± 4.3 cm) ($p < 0.05$). This relationship was also maintained between the groups COVID+ (4.35 cm) and COVID− (9 ± 7.5 cm) ($p < 0.05$). For a cut-off of 10 cm, the AST presented sensitivity of 88% and specificity of 41%, leading to an odds-ratio of 9.7 (95% CI 3.3–28.1) ($p < 0.001$).

Conclusion: The alcohol sniff test presented high sensitivity and odds ratio for COVID-19 screening in patients with mild influenza syndrome in the context of pandemic.

Keywords: Olfaction; COVID; Otorhinolaryngology.

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Is the presence or absence of nasal polyposis a good marker of type 2 inflammation?

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Objective: To identify the association between the presence or absence of nasal polyposis and the type 2 inflammation profile.

Methods: A retrospective cross-sectional study of patients aged 18 years with a diagnosis of chronic rhinosinusitis followed up at the Otorhinolaryngology service of a university hospital was conducted. The patients were divided into two groups based on nasal endoscopy: group 1 (with polyposis) and group 2 (without polyposis). The characterization of the type 2 immune response was defined in relation to eosinophil count in peripheral blood >250 cells/μL, total IgE >100 IU/mL, sensitization to aeroallergens and staphylococcal enterotoxins or presence of asthma.

Results: 160 patients with chronic rinossinusitis were included, 137 with polyposis and 23 without polyposis. 56% were female and the mean age was 60 years. The prevalence of asthma was 89.4%, higher in patients without polyposis (70.59%) than in those with polyposis (57.14%) ($p = 0.3$). Sensitivity to some aeroallergen was 66.9%, higher in patients without polyposis (66.67%) than

in those with polyposis (42.11%) ($p = 0.1$). The prevalence of patients with eosinophils >250 cells/μL was 69.54%, higher in patients with polyposis (70.77%) than in those without polyposis (61.90%) ($p = 0.41$). The median of seeric eosinophilia was 390 cells/μL, higher in patients with polyposis (423.5 cells/μL) than in those without polyposis (310 cells/μL) ($p = 0.03$). The prevalence of patients with IgE >100 IU/mL was 55.74%, higher in patients with polyposis (56.88%) than in those without polyposis (46.15%). The median dose of erric IgE was 154 IU/mL, being 158 IU/mL in patients with polyposis and 50 IU/mL in patients without polyposis ($p = 0.1$).

Conclusion: There was no relationship between phenotypic and endotypic classifications, because both patients with and without polyposis presented type 2 inflammatory response markers.

Keywords: Sinusitis; Phenotype; Th2 cells.

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Risk factors for laryngotracheal injury in patients with COVID-19 submitted to orotracheal intubation

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Objective: To evaluate the risk factors for the development of laryngotracheal lesions patients with COVID-19 undergoing orotracheal intubation (IOT).

Method: A prospective cohort was evaluated and approved by the Research Ethics Committee of the institution. Consecutive patients diagnosed with COVID-19 were evaluated for molecular test of RT-PCR, hospitalized in a tertiary hospital, in the period of March 1 to 31 October 2020, who required IOT. Patients who were discharged were called for outpatient follow-up and examination of the endoscopic.

Results: 1357 patients diagnosed with COVID-19 were hospitalized confirmed by molecular rt-PCR test in a nasal swab. IOT for ventilation mechanics was required in 421 patients (31%). In patients undergoing IOT, the outcome found was: hospital discharge – 172 (40.9%); death – 249 (59.1%). The evaluation outpatient videoendoscopy was performed in 95 patients (55.2%), on average 100 days after extubation. Statistical significance was observed for the development of laryngotracheal lesion patients who presented at the time of hospital admission the following factors: increase in leukocyte count (leukocytosis) with a reduction in lymphocyte count (lymphopenia), hypoalbuminemia, increased arterial lactate, increased troponin and increased total bilirubin; size of the endotracheal tube; indication of pronation during the IOT period; and increased leukocyte count, D-dimer, TP and INR on the date of IOT.

Conclusions: We observed a higher risk for the development of laryngotracheal injury patients who presented at hospital admission the increase in the leukocytes (leukocytosis) with reduced lymphocyte count (lymphopenia), hypoalbuminemia, increased arterial lactate, increased troponin and increased total bilirubin. Patients who used a larger endotracheal tube and were submitted to the pronation position, as well as patients who at the time of IOT increased inflammatory reactivity (increase in leukocyte count) or developed coagulation disorders (increased D-dimer, TP and INR), at higher risk for the development of laryngotracheal injury.

Keywords: COVID-19; SARS-CoV-2; Laryngotracheal susthesis after intubation; Larynx.

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Comparative magnetic resonance analysis of olfactory bulb of individuals with post-COVID anosmia 19

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Introduction: The world has seen an uprise of olfactory disorders during the last years of COVID-19 pandemic, and unlike other infectious diseases, this was a more permanent alteration.

Objective: Assess olfactory bulb region through magnetic resonance imaging in individuals that persisted with olfactory disorder after COVID-19 infection.

Method: Retrospective observational study with patients with persistent olfactory disorder after COVID-19 infection (hyposmia/anosmia). Subjects underwent CCCRC olfactory testing, nasal endoscopy, and MRI. Study group was then compared to a control group, with individuals from 18 to 65 years, with no olfaction complain, and that were submitted to MRI before 2020 (pandemic period).

Results: Study group was of 59 adults, mean age of 44.9 (±7.4), with a slight superior number of women (64.7%). Control group has 42 individuals with mean age of 40.3 and with a slight male predominance (52.4%). In the control group, the olfactory bulb mean size was of 53.6 mm^3, ranging from 20.4 mm^3 to 139.7 mm^3. Study group had the following results: mean of 43.8 mm^3, ranging from 18.4 mm^3 to 90.8 mm^3, with p value of 0.0225.

Conclusion: These results suggest that COVID-19 infection can be related to alterations of olfactory bulb structure that can explain persistence of olfactory.

Keywords: Anosmia; Coronavirus; COVID-19; SARS-CoV-2; Olfactory bulb.

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