A, B, C, D in which 1, 2, 3 and 4 maneuvers were performed per session, respectively. After each maneuver, the presence of dizziness was questioned and the presence of nystagmus was analyzed; in weekly return, only considered complete improvement when the patient did not complain of dizziness or nystagmus to the Dix Hallpike maneuver.

Results: After statistical analysis, a homogeneous group was observed in gender, age and affected laterality. Nineteen of the 32 patients showed complete improvement in dizziness and nystagmus at the end of the maneuvers at the first contact, and of these, 18 (94.34%) patients showed complete improvement of BPPV at the first return ($p = 0.051$). Of the patients who underwent 01 maneuver per session, 81.8% presented complete improvement in the first return; of those who performed 01 maneuver, 63.6% showed complete improvement; of those who performed 03 maneuvers, 100% improved completely on the first return and among those who performed 04 maneuvers per session, 90.9% showed improvement in dizziness and nystagmus at the first return ($p > 0.05$).

Discussion: Dizziness and instability are prevalent pathologies (21% of the population) and represent 10.8% of the complaints of patients seeking care in otorhinolaryngology emergency rooms. Among the causes of dizziness, BPPV is the most common cause of 3 vertigo (present in 1.6–5% of the general population). Studies are important to reach a consensus on the best bpPV treatment.

Conclusion: The higher cure rate is not related to a higher number of Epleys maneuvers performed per session. Patients who performed maneuvers until dizziness and nystagmus ceased to show a high rate of complete improvement in return.

Keywords: Benign paroxysmal positional vertigo; Dizziness; Semicircular channels; Vestibular diseases; Vertigo; Treatment intention analysis; Treatment plan.

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Influence of apoptosis inhibitors on response to mometasone furoate in patients with RSCcPN

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Objectives: To compare the expression of apoptosis inhibitors (APs) among patients with and without Chronic Rinosinusitis with Nasal Polyp (RSCcPN), to compare the expression of apoptosis inhibitors among patients with RSCcPN who had a good response to topical nasal corticosteroids with those who had inadequate response, and also correlate the expression of apoptosis inhibitors to inflammatory markers in patients with RSCcPN.

Methods: Clinical data were collected from patients with RSCcPN followed in a reference service through a quality of life questionnaire – SNOT-22, and the measurements of the endoscopic score (Lund-Kennedy) and the tomographic score (Lund-Mackay) were performed. Nasal polyp samples were collected from patients with RSCcPN (without clinical treatment for at least 1 month of recruitment) and sampled of the middle shell of the controls for analysis. Gene expression of apoptosis inhibitors (XIAP, BIRC2/IAP1 and BIRC3/IAP2) and caspases (CASP3, CASP7, CASP9 and BCL2) were measured by qRT-PCR. The dosages of pro-inflammatory cytokines (IFN-α, IL-5, IL-33, IL-10, IL-17 and TGF-b) were measured by the Luminex method. The comparison between the group of patients with nasal polyp and controls was performed by non-paired parametric tests. The patients in the study group were also divided into good and bad responders to the nasal topical corticosteroid for the evaluation of the response to treatment. Principal Component Analysis (PCA) was used to correlate the expression of markers evaluated here with the response to topical nasal corticosteroids in patients with RSCcPN.

Results: The final study was then composed of 27 patients with RSCcPN (17 females; mean age 46 ± 12.2 years), and 16 controls (14 female; mean age 29.8 ± 9.2 years). We found lower expression of the three apoptosis inhibitor genes (XIAP, BIRC2/IAP1 and BIRC3/IAP2) and significantly higher expression of the cytokines IFN-α, IL-5 and TGF-b in patients with RSCcPN compared to disease-free patients. Some patients had a very good response to the medication, while others practically maintained the same intensity of symptoms and endoscopic score. From this observation, we separate the patients into two groups, the ones with good response to topical corticosteroids and poor responders. We observed that patients who responded poorly to topical corticosteroids had significantly lower birc2/IAP1 indices when compared to those who had the best response. When associating the expression of markers with corticosteroid response using the PCA method, we identified that the markers BIRC2/IAP1, XIAP, BCL2, CASP9, IL-17 and IL-33 were increased in patients with better clinical response, while CASP7 and TGF-b were related to worse response to treatment.

Discussion: Inflammation with mixed pattern (T1, T2 and T3) was evidenced in patients with RSCcPN, when compared to controls. Our data suggest that the decrease in PIS is an important factor in the physiopathogeny of RSCcPN and in susceptibility to clinical treatment. Whereas PII modify the innate inflammatory cascade, the present findings reinforce the importance of the innate immunity process as an essential link between the environment, the epithelium and the chronicization of the inflammatory process, in addition to opening new perspectives on the importance of the epithelial barrier of the nasosinusal mucosa in RSCcPN.

Conclusions: Patients with RSCcPN showed lower expression of the 3 apoptosis inhibitor genes (IAPs) studied (BIRC2/IAP1, BIRC3/IAP2 and XIAP), in addition to significantly higher expression of inflammatory cytokines IFN-g, Il-5 and TGF-b when compared to disease-free patients. The lower expression of BIRC2/IAP1 and XIAP was also related to the worse response to nasal topical corticosteroids. Finally, we observed that the expression of BIRC2/IAP1 and XIAP was strongly associated with the expression of IL-17A, CASP9 and CASP3, weakly associated with the expression of IL-33 and IL-5 and negatively associated with tgf-beta expression, reinforcing the large participation of PHI in apoptosis and inflammatory process.

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