

Fibroblast concentration in the vocal folds of the elderly

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After ageing, the larynx undergoes structural and functional alterations, called presbyphonia, which can compromise the vibratory pattern of the vocal folds and negatively affect the voice. Among the various structural changes, there are the increase in the extracellular fibrous matrix and the decrease in hyaluronic acid. As fibroblasts are important components of the lamina of vocal folds, responsible for the production of collagen and elastic fibers, we consider it important to know the behavior of these cells in the larynx of the elderly to better understand the pathophysiology of presbyphonia.

Objective: To study the concentration of fibroblasts in the vocal folds of the elderly by immunohistochemical analysis.

Material and methods: The vocal folds of 13 cadavers were distributed into two groups (n=5, age between 18 and 40 years; n=8, age above or equal to 75 years), dissected and prepared for immunohistochemical analysis using the Antibody S100 (AB 41532-ABCam. Cambridge, Cambridgeshire), for fibroblasts. The sites analyzed were flavaic macules and medial (or vibratory) part of the vocal folds. The image J program was used for cell counting.

Results: Higher concentration of fibroblasts was identified in the flavaic macules of the larynxes of young adults and in the medial part of the vocal folds of the elderly. However, these results did not determine statistically significant differences, allowing us to affirm that there was no effect of age on fibroblast concentration in the vocal folds.

Discussion: The fact that we did not identify quantitative changes in fibroblast concentration in the larynxes of the elderly when compared to the larynxes of young adults, allows us to assume that there are qualitative functional alterations in these cells capable of altering their behavior.

Conclusion: In the larynx of the elderly, the fibroblast population remains similar to that observed in the larynxes of young adults, both in flavaic macules and in the body of the vocal folds, possibly responsible for the constant production of fibrous matrix in the lamina itself. Functional changes in these cells are probably more marked than quantitative ones.

Keywords: Presbyphonia; Vocal folds; Elderly; Fibroblasts.

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Use of corticosteroids in the treatment of periamigdaline abscesses: Is there benefit?

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Objective: To evaluate the benefits related to the use of corticosteroids in the adjuvant treatment of patients with periamigdaline abscess.

Material and methods: A retrospective study was conducted in a tertiary hospital of patients treated by the Otorhinolaryngology Service of the Institution, from March 2018 to February 2022. The following data were collected from the patients: gender, age, duration of disease evolution, use of medications before hospitalization, use of corticosteroids during hospitalization, antibiotic used, volume of abscess evaluated by computed tomography, drainage, drained volume, leukocyte count (leukogram) at hospital admission and after 48h, Protein C reactive (PCR) on hospital admission and after 48h, symptoms at hospital admission, clinical evolution during hospitalization and isolated microbiological agent.

Results: 90 hospitalized patients diagnosed with periamigdaline abscess were evaluated. The following parameters were not influenced on the size of the abscess: duration of disease evolution, previous use of anti-inflammatory drugs, age group, length of hospitalization (days) and leukogram at hospital admission and after 48h. In patients who used corticosteroids, no statistically significant reduction in pain was observed, in the duration of hospitalization and in the duration for acceptance of a general oral diet ($p=0.490$, $p=0.775$ and $p=0.465$, respectively).

Conclusion: The use of corticosteroids as adjuvant therapy in patients with periamigdaline abscess has no benefits concerning pain control, reduction in length of hospitalization or duration for acceptance of the general oral diet.

Keywords: Periamigdaline abscess; Corticosteroid; Pharyngeal infections.

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Thyroplasty type-III, results

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Objectives: This study aims to validate the hypothesis that type III thyroplasty achieves its objective and makes the patient's voice more severe. This technique was first

reported by Isshiki et al. in 1974, and consists of reducing the posterior anteros diameter of the thyroid cartilage. Partial resection of this cartilage results in the relaxation of the vocal cords and decreased tension on them, making the voice more severe and decreasing its fundamental frequency.

Methods: For this analysis, the fundamental frequency of the voice and the score obtained in the Vocal Handicap Index-10 (IDV-10) pre- and post-surgical of the patients of the Hospital Instituto Paranaense de Otorhinolaryngology of Curitiba submitted to relaxation thyroid is performed by a medial approach between 2018 and June 2022, totaling 30 cases of cisgender male participants diagnosed with a mutational falsetto. The patients were operated by a single surgeon, using the same technique in all procedures, in order to enable a verisimilcomparison between the sample. The "paired sample *t*-test" was used for statistical analysis.

Results: The mean preoperative Fo in the sample ($n = 30$) was 179.76 Hz (standard deviation of 17.03, standard error of 3.11). When evaluated after six months of the procedure, the mean Fo decreased to 109.16 Hz (standard deviation = 6.49, standard error = 3.11, $p < 0.001$), proving the effectiveness of surgery in reducing voice Fo. The preoperative IDV-10 had a mean score of 22.87 (standard deviation = 6.95, standard error = 1.268). When evaluated six months after the procedure, the score decreases to 4.10 (standard deviation = 2.31, standard error = 0.422, $p < 0.001$), showing a great positive impact of surgery on the function of the participants' voice.

Discussion: Analyzing the results, it is confirmed the hypothesis that type-III thyroplasty presents the expected results, making the voice effectively more severe, due to the significant reduction of Fo. The procedure also shows to achieve the expectations of patients, improving their quality of life, especially in the social aspect, through a large decrease in the score in the IDV-10 questionnaire after surgery, an important parameter validated with adequate psychometric properties of validity, reliability and sensitivity to promote its use in the evaluation of individuals with dysphonia. With 30 patients, the present study, therefore, can be considered an unprecedented compile of the comparison not only of the alteration of fo by the type III thyroplasty process, but also of the subjective perception that such change causes in the quality of life of the participant (IDV-10), proving the validity of this surgical procedure.

Conclusion: Voice plays an extremely important role in social interaction and in the construction of personal identity, so the patient's dissatisfaction with his own voice has a great impact on his quality of life, directly affecting his/her health status. The results of the study prove the efficacy of type-III thyroplasty in reducing the fundamental frequency of voice. Therefore this procedure may be indicated for cisgender or transgender men dissatisfied with their tone of voice, even after speech therapy and/or hormone therapy with testosterone.

Keywords: Type-III thyroplasty; Vocal surgery; Fundamental frequency; Pubertal.

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Tomographic changes of the paranasais sinuses of patients with Covid-19

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Objective: To verify the presence of tomographic alterations in the paranasais sinus of patients diagnosed with Covid-19 and to evaluate the presence of an association between olfactory symptoms and the involvement of these sinus.

Methods: This is an observational cross-sectional study that analyzed computed tomography of the nose and paranasal sinus (SSCT) of patients with Covid-19 regarding the presence of mucous thickening in the paranasal sinus. Patients who underwent RT-PCR examination for detection of Covid-19 (SARS-CoV-2) and TCSPN infection from March 2020 to March 2021 were included. Patients with a history of previous nasosinus surgery, recent facial trauma, age below 18 years or with incomplete information in medical records were excluded.

Results: A total of 65 individuals were included, of whom 28 were diagnosed with Covid-19. In tomographic analysis, an association was observed between Covid-19 infection and mucous thickening of the bilateral maxillary sinus ($p = 0.038$) and mucous thickening of the bilateral ethmoidal sinus ($p = 0.005$). No significant association was found between mucous thickening of the sphenoid and frontal sinus with virus infection. The complaint of olfactory dysfunction was reported by 20% of the patients, with no association with tomographic alterations or Covid-19 infection.

Conclusion: Covid-19 virus infection possibly causes an injury to the mucosa of ethmoidal cells due to the inflammatory process resulting from viral infection. The lesion of the mucosa of the ethmoidal sinuses may cause alteration in the drainage physiology of the maxillary sinuses due to blockade of the middle meatal tract – site of drainage of the maxillary sinus – and lead to edema of the mucosa of this sinus. This change in the mucosa of the ethmoidal sinus may also be the cause of olfactory disorders presented by patients, as well as may cause lesions in the olfactory nerve.

Keywords: Covid-19; SARS-CoV-2; Anosmia; Tomography; Paranasal sinuses.

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