Polipose nasossinusal

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ABSTRACT

Characterized by being a chronic degenerative inflammatory disease of the mucosa, Sinonasal Polyposis is a multiplication of polypoid structures in the nasal cavities and paranasal sinuses, whose pathophysiological mechanisms are still poorly understood in the literature, but which has something in common in all the cases already observed, occurs with the presence of an inflammatory process in the submucosa of the individual. Thus, the main objective of this study was to describe, based on the existing literature, what sinonasal polyposis would be, its characteristics, treatment and challenges of affected individuals. In this sense, the study carried out was a systematic literature review carried out in the first half of 2024 the research used the following descriptors: "Polyposis"; "Chronic Disease"; "Nasal Cavities" in the PUBMED, Scielo and Google Scholar databases, with 10 articles being selected at the end. The results showed that in all cases of patients with sinonasal polyposis there was the presence of an inflammatory condition, however, more studies are needed to have a basis on the disease.

Keywords: Polyposis, Chronic Disease, Nasal Cavities.

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INTRODUCTION

A condition that affects the upper airways, Sinonasal Polyposis is a serious disease in which polyps form in the patient's sinuses and nose, it is usually accompanied by chronic inflammation in the upper airways. Known for more than 4000 years, nasal polyposis (NP) was the first disease in history in which the name of the doctor and the patient were recorded (Cingi, 2011). To better understand this condition, it is necessary to know what nasal polyps are, which are small pockets of tissue that grow on one or both sides of the nose of allergic or asthmatic people, they are usually painless and benign.

The term "nasal polyposis" (NP) refers to a chronic inflammatory disease of the nasal mucosa and paranasal sinuses with formation of benign, multiple, bilateral polyps, which originate as pedunculated, edematous protuberances attached to a base in the middle concha, ethmoidal bulla, or ostia of the maxillary or ethmoid sinuses.

Polyps are usually soft, shiny, mobile, slightly grayish or pinkish, with a smooth surface, painless to palpation, and translucent in appearance. The size of the polyp is variable, and it can expand from the middle meatus to the entire nasal cavity, nasopharynx, nostrils, and paranasal sinuses. The presence of polyps leads to obstruction of the sinonasal drainage ostia and consequent clinical picture of chronic sinus disease (Pernes, 2000).

That is, the presence of polyps are usually associated with other types of allergic conditions. Therefore, it should not be considered as an isolated entity, as it is usually associated with other conditions such as chronic inflammation, allergy, infection, asthma and hypersensitivity to aspirin (Brescia, 2018).

Thus, histologically, NP is characterized by epithelial changes, inflammatory cell infiltrate, and interstitial edema (Shin, 2015). The main symptoms are anterior and/or posterior nasal obstruction and discharge, altered sense of smell (hyposmia or anosmia) and headache, which can result in a significant negative impact on the quality of life of patients. In this sense, studies indicate that NP interferes with quality of life in a more relevant way than other chronic diseases, such as rheumatoid arthritis, insulin-dependent diabetes and chronic obstructive pulmonary disease (Gliklich, 1997).

Polyps can be classified into four subtypes: edematous and eosinophilic polyps; chronic inflammatory polyp; polyp with seromucinous glandular hyperplasia and atypical stromal polyp (Barros, 2020).

According to Jankowski (2018), its diagnosis is based on the clinical history associated with the observation of the nasal cavities through anterior rhinoscopy and/or nasal endoscopy and computed tomography to assess the extent of the disease and, subsequently, surgical planning. Thus,

this disease has multiple pathogenic mechanisms that require different methods for its accurate diagnosis.

Thus, the main objective of this study was to describe, based on the existing literature, what sinonasal polyposis would be, its characteristics, treatment and challenges of individuals affected by this condition.

METHODOLOGY

The present study is a systematic review in which the following steps were followed for its construction: elaboration of the research question; literature search; selection of articles; data extraction; evaluation of methodological quality; synthesis of data; assessment of the quality of the evidence, writing and publication of the results.

The survey was conducted in February 2024 through searches in the following databases: Google Scholar, Scielo and PubMed. For this purpose, the following descriptors were used: Polyposis; Chronic Disease and Nasal Cavities.

From this search, 10 (ten) articles were found, which were later submitted to the selection criteria established for this study.

The inclusion criteria were: articles in Portuguese and English; published and that addressed the themes proposed for this research, studies of the type (review, meta-analysis), made available in full.

The exclusion criteria were: duplicate articles, made available in the form of an abstract, that did not directly address the proposal studied and that did not meet the other inclusion criteria.

After the selection criteria, fourteen articles remained that were submitted to a thorough reading for data collection. The results were presented in a descriptive way, divided into thematic categories addressing: describe the subheadings or points that were mentioned in the discussion.

RESULTS AND DISCUSSION

There are few studies in the literature related to pediatric cardiology, pediatric cardiology is the part of medicine responsible for caring for the entire cardiovascular system of children and adolescents.

Thus, the results obtained pointed out that NP consists of the multiple polypoid formation resulting from a chronic inflammation of the mucosa of the nasal cavities and sinuses (Barros, Estevens, 2014).

Thus, this should not be considered a definitive diagnosis, since it is only a pathological endoscopic description of sinonasal diseases (Tal, 2019).

Nasal polyposis can exceptionally present in isolation or, more frequently, be associated with pathologies such as chronic rhinosinusitis, allergy, asthma, hypersensitivity to acetylsalicylic acid, cystic fibrosis, as well as other systemic diseases.

Polyps can divide into eosinophilic and non-eosinophilic polyps, presenting distinct inflammatory response patterns. Thus, sinonasal polyposis (NP) is a chronic inflammatory process of the nasal mucosa, characterized by the presence of multiple and bilateral nasal polyps. Its pathophysiology is controversial, with several theories described in the literature.

CLINICAL FEATURES

NP is a chronic inflammatory disease of the nasal mucosa and paranasal sinuses with formation of benign, multiple, bilateral polyps that originate as pedunculated, edematous protuberances attached to a base in the middle concha, ethmoid bulla, or ostia of the maxillary or ethmoid sinuses. Polyps are usually soft, shiny, mobile, slightly grayish or pinkish, with a smooth surface, painless to palpation, and translucent in appearance.

The size of the polyp is variable, and it can expand from the middle meatus to the entire nasal cavity, nasopharynx, nostrils, and paranasal sinuses. It mainly affects adults of all races and social classes. There is a predominance in males and the female population is usually affected by the most severe symptoms (Barros, 2020).

According to Shin (2015), the prevalence of NP generally ranges from 0.2% to 4.3% of the general population. In a study conducted in Finland, through a questionnaire with 4300 adult patients, of both sexes, between 18 and 65 years of age, the prevalence of nasal polyps was 4.3%.

These numbers may also be underestimated, as there is a significantly higher prevalence reported in autopsy studies. In certain groups, the percentage is even higher, such as in asthmatics, whose association with NP is around 7% to 20%. An asthma prevalence of 45% has been reported in patients with NP.

Thus, the main symptoms of NP are nasal obstruction, hyposmia or anosmia, headache, mucoid secretion and sneezing, usually of insidious onset and slow evolution according to Voegels (2006).

In this sense, several pathogenic mechanisms have been proposed to explain its development, highlighting the allergic theory and, more recently, the inflammatory theory, as shown by the studies of Pernes (2000), for many years, it was believed that polyposis had an allergic etiology, however, this evidence has been contested by several authors. Emerging theories involve the participation of the inflammatory microenvironment, cytokines, adhesion molecules and ion transport in the pathogenesis of sinonasal polyposis.

Thus, polyp biopsy in clinical practice is generally used in doubtful cases or cases of unilateral nasal polyp to rule out other diagnoses, such as neoplasia, inverted papilloma, vascularized tumors, as well as to detect systemic diseases with sinonasal alterations expressed as NP. In surgical cases, histopathological analysis is mandatory for all cases.

This leads us to understand that polyps are structures formed by ciliary epithelium, thick basement membrane and loose stromal tissue, with few glandular vessels and structures, and absence of neurological elements. A typical finding is the presence of an intense infiltrate of inflammatory cells in the stroma, among which eosinophils predominate (Cingi, 2011).

HISTOPATHOLOGY OF SINONASAL POLYPOSIS (NP)

According to Barros, Estevens (2014) NP is characterized by chronic inflammation of the nasal mucosa and paranasal sinuses, with an abnormal accumulation of eosinophils, lymphocytes, neutrophils, plasma cells, and fibroblasts. Inflammatory mediators secreted by these and other cells contribute directly or indirectly to the structural alterations of NP.

These changes are found in the epithelium and submucosa. They are characterized by squamous metaplasia of the epithelium, fluid edema in the submucosa, formation of pseudocysts, submucosal glands, and thickening of the basement membrane. The presence of a chronic inflammatory process in the submucosa seems to be a common element in all cases of NP, which can be evidenced in several studies in the literature (Voegels, 2006).

Corroborating this thought by Cindi (2011), the first report of NP dates back almost 5000 years, but the factors related to this disease are not yet fully elucidated. The presence of a chronic inflammatory process in the submucosa seems to be a common element in all patients with NP, with recruitment of inflammatory cells, such as leukocytes, plasma cells, neutrophils and especially eosinophils. Eosinophils are the main cells of the inflammatory infiltrate, present in 86% of patients with NP.

According to most authors, the finding of glands in the histology of nasal polyps is relatively frequent, especially in cases with few eosinophils. Barros, Estevens (2014) observed that NPs without eosinophilia had glandular hypertrophy, dense collagen deposition, and mononuclear cell infiltrate.

In this sense, the treatment of NP is still a major challenge for otorhinolaryngology. Its purpose is to restore nasal breathing and smell, as well as prevent the recurrence of the disease. Many patients, initially submitted to clinical treatment, will require associated surgical management.

Thus, despite being an established treatment, numerous knowledge gaps persist, hindering the complete understanding of the inflammatory disease, the mechanisms that lead to polyp growth, and its characteristics and challenges to adequate treatment.

There is still much to be understood about the pathogenesis of NP. Chronic inflammation is one of the main factors involved, however, not all chronic inflammatory diseases of the mucosa are associated with NP, as is the case with chronic rhinosinusitis. Similarly, decreased airflow due to anatomical blockade with consequent reduction in tissue O2 concentration occurs in most cases, but is also not a strictly necessary factor in pathogenesis. (Barros, 2020).

Currently, there is a tendency in the literature to consider NP as an inflammatory disease with multifactorial causes. Local factors such as bacterial infection or structural alterations such as deviated septum and anatomical variations of the middle meatus result in a local inflammatory response, which is responsible for the appearance of mucosal ulcerations with consequent submucosal prolapse, triggering re-epithelialization and glandular proliferation. Fibroblasts and epithelial cells act by producing cytokines, chemotactic factors, and other mediators that will perpetuate the inflammatory process. (Cindi, 2011).

CONCLUSION

The chronic inflammatory condition Sinonasal Polyposis is usually associated with the presence of other chronic diseases, such as allergies, rhenitis, sinusitis and asthma. This affects the submucosal layer of the upper airways in order to develop polyps that can negatively impact the quality of life of affected individuals.

As observed in this systematic review, this chronic disease that leads to the formation of multiple and benign nasal polyps can be treated surgically or with the help of medication such as corticosteroids. Although it is an old disease, very little is known about what actually generates this condition in the individual, however, what is common in most of the cases researched and seen in the literature is the presence of the chronic inflammatory process.

The objectives proposed for this study were achieved, where it was possible to describe, based on the existing literature, what Sinonasal Polyposis would be, as well as to analyze its characteristics, treatment and challenges in the lives of affected individuals. The present study had no limitations to its realization, since there are several authors who talk about Sinonasal Polyposis in their studies.

In this sense, the present systematic review may serve as a basis for future research in the area and encourage new researchers who are interested in otorhinolaryngology and its possibilities.

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