Case report

Persistent headache secondary to giant Thornwaldt's cyst

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Cefalea persistente secundaria a un quiste de Thornwaldt gigante

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Abstract
Case presentation. A woman who attended the outpatient clinic of the Otorhinolaryngology Service with a one year history of frontal headache, a sensation of obstruction in the right nostril and thick postnasal drip. Physical examination of the nostrils showed pale mucosa with no evidence of tumor, also there were no abnormalities in the oral cavity. As there was no evidence of improvement, a computed tomography scan of the paranasal sinuses was indicated, in which a mucosal retention cyst of 20 x 15 mm, with regular and well-defined borders, was found at the level of the nasopharynx. **Treatment.** Endoscopic surgery was performed as a surgical procedure, which was carried out through a transnasal approach consisting of the exeresis of the tumor in the right nostril, with a cystic appearance in the cavum of approximately 6 x 2 cm, with yellowish mucus inside. **Outcome.** In the immediate postoperative period, she did not present complications, and was discharged the same day. Afterwards, she showed satisfactory progress, so she was discharged by Otorhinolaryngology.

Keywords
Nasopharyngeal Diseases, Nose, Paranasal Sinuses, Nasopharynx.

Resumen
Presentación del caso. Se trata del caso de una mujer que acudió a la consulta externa del Servicio de Otorrinolaringología con un cuadro de un año de evolución caracterizado por cefalea frontal, sensación de obstrucción nasal predominantemente en la fosa nasal derecha y goteo posnasal de consistencia espesa. En el examen físico de las fosas nasales se identificó mucosa pálida, sin evidencia de lesiones tumorales; los hallazgos en la cavidad bucal fueron igualmente normales. Dado que la paciente no mostró mejoría clínica, se solicitó una tomografía computarizada de senos paranasales, la cual reveló en la nasofaringe la presencia de un quiste de retención mucosa de 20 x 15 mm, de bordes regulares y bien definidos. **Intervención terapéutica.** Se le realizó la cirugía endoscópica como procedimiento quirúrgico, que se llevó a cabo mediante un abordaje transnasal, efectuándose la exéresis de la lesión localizada en la fosa nasal derecha. La masa presentaba apariencia quística en el cavum nasofaríngeo y medía aproximadamente 6 x 2 cm, observándose en su interior contenido mucoso de tonalidad amarillenta. **Evolución clínica.** En el posoperatorio inmediato, la paciente no presentó complicaciones, por lo que fue dada de alta el mismo día del procedimiento. En la evolución posterior, mostró una recuperación satisfactoria, motivo por el cual se otorgó el alta definitiva por el servicio de Otorrinolaringología.

Palabras clave
Enfermedades Nasofaríngeas, Nariz, Senos Paranasales, Nasofaringe.

Introduction

Thornwaldt's cyst is considered a benign mass, frequently located in the nasopharynx. Mayer, in 1884, first considered Thornwaldt's cyst in autopsy specimens. Later, the German physician Gustav Ludwig Thornwaldt declared it as a pathological term.[1] It is generated from permanent remnants of notochord.[1] However, it has been frequently mentioned that it can originate after surgeries such as adenoidectomy.[2]

Most nasopharyngeal cysts are asymptomatic and infrequent. However, these lesions are rarely discovered during regular endoscopies and imaging tests. An upper nasopharyngeal Thornwaldt's cyst is a benign congenital cyst of the mucosa.[3]

Thornwaldt's cysts cause a wide variety of symptoms, which may include nasal obstruction, postnasal drip, headache, nuchal rigidity and Eustachian tube dysfunction, among others.[3,4] In addition, the neck is a complex structure with many compartments, and there are unusual disease processes that can mimic more serious conditions, such as meningitis.[5]

In some cases, Thornwaldt's cysts may become enlarged or inflamed, resulting in clinical symptoms such as post-nasal discharge, halitosis, Eustachian tube dysfunction, and headache. Diagnosis is based on clinical history and imaging (naso-endoscopy, computed tomography, or magnetic resonance imaging [MRI]) and is confirmed by histopathology.[6]

Thornwaldt's cysts usually do not require treatment, but when clinical symptoms appear, they should be surgically removed.[7] Most cysts are not diagnosed because of their small size;[8] and some cases, epistaxis may occur.[9]

Thornwaldt's cyst may appear spontaneously or secondary to traumatic action, post-adenoidectomy, infections, and foreign body erosions.[10] These may be asymptomatic and generally do not require active intervention, but continued surveillance and individualized patient care remain vital to ensure optimal outcomes.[11]

Benign masses occupying the upper airway are primarily cystic masses.[12] While desmoid tumors have been registered in the head and neck region, those located in the nasopharynx are exceptionally rare.[13] Endoscopic examination usually reveals a mass at the level of the nasopharynx.[14]

It has been described that Thornwaldt's cyst can be associated with various pathologies, such as local tumors, including Rathke's pouch cyst, sphenoid sinus mucocele, and dermoid teratoma of the posterior nasopharyngeal wall.[15] Many of these lesions found are benign, located mainly in the nasopharynx, followed by the uvula, lateral pharyngeal wall, and soft palate.[16]

The objective of this case report is to present the diagnosis of Thornwaldt's cyst with frontal headache as the main manifestation, since it is a rare disease and is often confused with other diseases; in addition, it also aims to provide information on the appropriate management through the transnasal endoscopic approach.

Case presentation

A woman who attended the outpatient clinic of the Otorhinolaryngology Service of a national hospital, with a history of one year of frontal headache, sensation of obstruction in the right nostril, and abundant thick posterior drip.

For which she was previously managed with intranasal steroid and antihistamine, on physical examination, at the level of the nasal cavity the mucosa was pale with no evidence of tumor, as well as in the oral cavity. Without improvement, so she was indicated for computed axial tomography (CT) of the paranasal sinuses.

The CT of the paranasal sinuses, a 20 x 15 mm mucosal retention cyst at the level of the nasopharynx. It also showed an image of the same characteristics in the floor of the maxillary sinus, with diameters of 26 mm, with regular defined borders; with mucosal thickening of the left maxillary sinus (Figure 1).

A nasopharyngolaryngoscopy showed a cystic lesion in the right nostril at the level of the cavum and pharyngeal inlet with abundant thick mucus.

Treatment

Endoscopic surgery was carried out through a transnasal approach consisting of exeresis of the tumor in the right nostril.

The mass had a cystic appearance and was located in the nasopharynx, it wasapproximately 6 x 2 cm, with yellowish mucus inside, (Figure 2) which did not obstruct both choanae. Also, we found abundant inflammatory tissue occluding the right maxillary *ostium*, with polypoid appearance and abundant mucus inside the right nostril, maxillary sinus (Figure 3).

Clinical course

Postoperatively, treatment was indicated with ketorolac 30 mg every eight hours, chlorpheniramine 10 mg every 12 hours, and dexamethasone 8 mg every eight hours, all intravenously.

The patient did not experience any complications and was discharged from hospital on the same day.

After one week, she was evaluated in a follow-up visit, in which scarce crusts and mucus were observed in both nostrils. The cyst site did not show bleeding or recurrence (Figure 4).

The patient had a satisfactory evolution and was therefore discharged by Otorhinolaryngology.

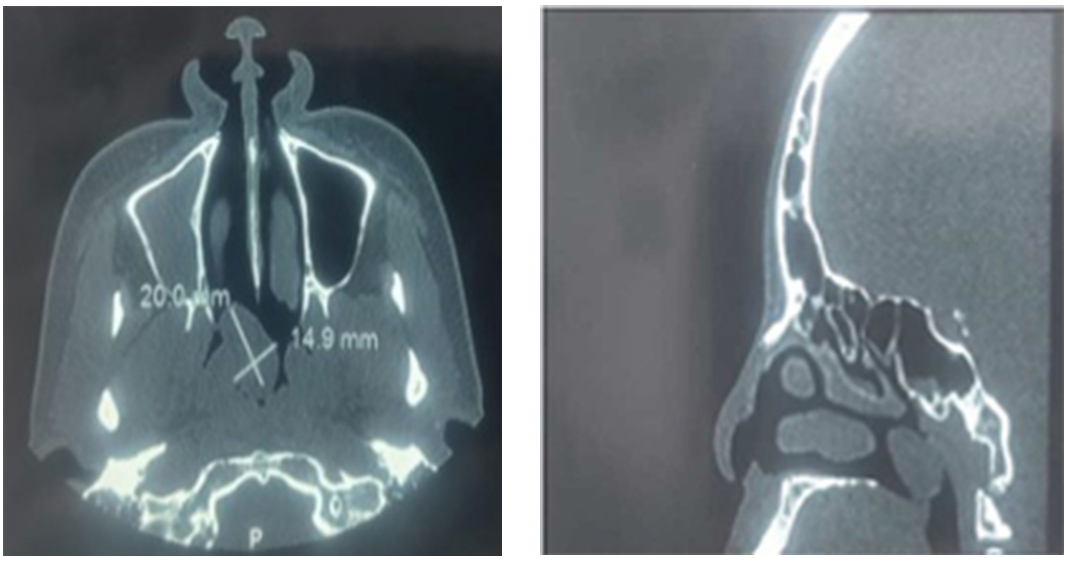

Figure 1. (a) Axial view and (b) Sagittal view of CT of paranasal sinuses showing a tumor in the nasopharynx, whose average size is 20 x 15 mm.

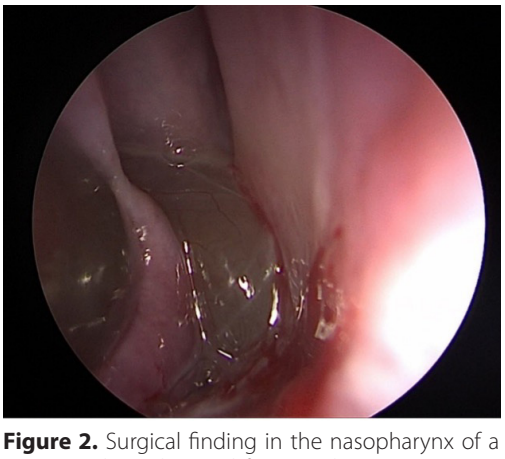

Figure 2. Surgical finding in the nasopharynx of a tumor in the right nasal fossa, with a cystic appearance.

Figure 3. Macroscopic finding in the nasopharynx, cystic in appearance, measuring 6 x 2 mm, with abundant inflammatory tissue.

Clinical diagnosis

Clinical evaluations by physical examination, imaging and histological studies allowed defining the diagnosis of Thornwaldt's cyst in the nasopharynx. The histopathological study of the 3.0 cm cystic specimen detailed that the cavity measured 2.0 cm, with clear liquid content inside. In addition, the microscopic report described that the cavity was lined by simple ciliated respiratory epithelium, without evidence of inflammation. Thornwaldt's cyst was diagnosed in the right nostril.

Discussion

Thornwaldt's cyst is a benign mass, usually located in the middle nasopharynx.[1] It has occurred in all age groups, with a peak prevalence from 15 to 30 years, in which there is no sexual dominance.[1] These groups are usually asymptomatic and often diagnosed incidentally on imaging studies and autopsies, with an incidence rate of 0.2 - 5 % and 4 %, respectively. The groups are usually discovered between the ages of 15 and 60 years, with no particular sexual predilection.[6] Patients should be informed about the benign nature of the disease, and any complications that may arise should the cyst grow.

Continuous surveillance and appropriate treatment based on the patient's individual clinical presentation remain essential for optimal patient care.[11]

The findings on nasal endoscopy are usually those of a smooth, vitreous submucosal mass superior to the adenoid tissue with greenish-yellow coloration due to cystic substances.[1] The cyst can be easily diagnosed by nasoendoscopy or imaging studies, supported by histopathological examination.[3] MRI is more effective than CT in the definition and detection of these lesions, with the important demonstration of adherence to the cervical vertebrae. Regarding treatment, when small cysts are observed, transnasal endoscopic access is suggested.[1]

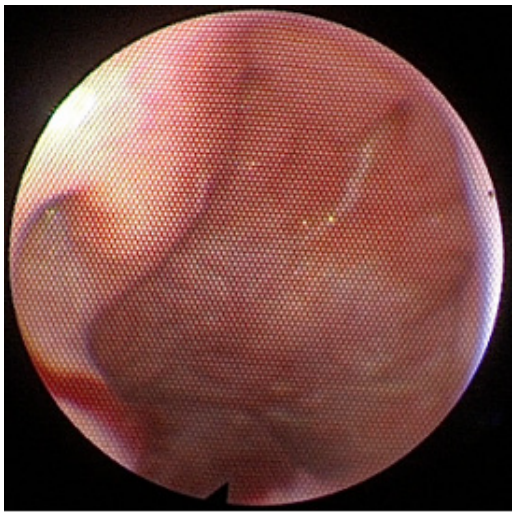

Figure 4. Post-surgical nasal endoscopy, where the site of the cyst did not present bleeding or recurrence.

Although relatively rare, Thornwaldt's cyst should be suspected in any patient presenting with suggestive symptoms and treated accordingly.[4] Asymptomatic cysts do not need to be treated surgically, but only followed up regularly. Both transoral and transnasal endoscopic approaches can be performed.[7] If only aspiration of the cystic contents is performed, recurrence of the lesion is possible.[1] Long-term follow-up of patients has demonstrated the efficacy and safety of endoscopic surgical removal with no recurrence detected up to three years postoperatively.[3,6]

In conclusion, Thornwaldt's cyst is a benign tumor, infrequent; treatment is surgical if symptomatic. Diagnosis is based on imaging studies and histopathological examination. Although it may be asymptomatic and not require treatment, Thornwaldt's cyst may be associated with unilateral nasal obstruction, posterior rhinorrhea, and Eustachian tube dysfunction. The marsupialization under endoscopic nasal guidance with cauterization of the edges is easy to access and without major complications, as in the case presented. Manifestations of cervical contracture and pain are rare but improve after surgical management.

Ethical aspects

An informed consent was obtained from the patient and the person in charge for the publication of this article, with the commitment to maintain the patient's privacy, as established in the Declaration of Helsinki.

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