



Thornwaldt Cyst: A Rare Developmental Nasopharyngeal Mass

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Abstract

Thornwaldt's cyst is a rare benign disorder of persistent notochord. It occurs in the midline of the nasopharynx above the upper border of the superior constrictor muscle. Usually this is asymptomatic and patients may present symptoms such as nasal obstruction, foreign body sensation, hearing loss due to close vicinity of Eustachian tube, periodic halitosis with an unpleasant taste and nasopharyngeal discharge [3]. Symptomatic cases can be operated by endonasal or transoral approach. Marsupialization is the procedure of choice to avoid recurrences. We have removed the cyst endoscopically using powered instruments i.e. coblator and debrider.

Keywords: Thornwaldt's Cyst; Endoscopy; Endonasal

Introduction

Thornwaldt's cyst is an uncommon type of nasopharyngeal cyst that may give rise to significant clinical symptoms depending upon its size. The cyst was described by Thornwaldt in 1885 [1]. Thornwaldt cyst is a rare benign disorder which occurs due to persistent notochord remnants. Gustavus L. Tornwaldt who was a German physician published about this in a journal and described the development of nasopharyngeal cyst from the bursa. He described about the clinical symptoms caused by the accumulation of fluid in these cysts and the subsequent infection involving the infection of the cysts. Thornwaldt's cyst is a rare benign disorder of persistent notochord. The contact between these remnants and pharyngeal ectoderm creates the condition for the in growth of respiratory epithelium, which forms the Tornwaldt's bursa, which ultimately drains in to the nasopharyngeal cavity. This bursa then develops in to a cyst if or when the orifice is partially or totally obstructed as result of infection or after adenoidectomy [1].

Case Report

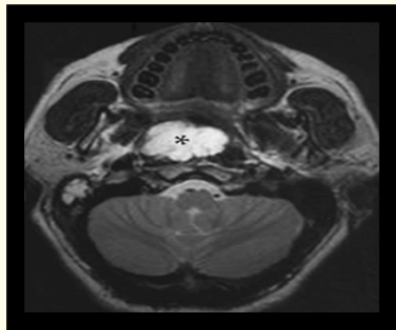
A 53-year-old man presented with progressive nasal obstruction that used to worsen on laying down and twang that had lasted for 1 year accompanied by foreign body sensation in the posterior nasal region, postnasal dripping, halitosis, nasal itching and sneezing. He had no history of headache, nasal operation or trauma. Diagnostic nasal endoscopy showed a smooth, cystic mass of almost 4 cm X 4 cm located in the midline of the nasopharynx. obstructing more than 50% of its lumen.

Investigations

Routine haematological investigations were normal. MRI showed a lobulated mass in the nasopharyngeal cavity with wall and septa enhancement. Radiographs demonstrate a soft tissue mass with sharply defined margins high in the posterior pharyngeal wall. Other characteristics of the cyst are the superior location, no surrounding soft tissue reaction, and no bony involvement [2].



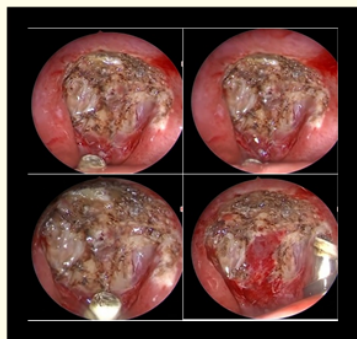
Picture 1: Thornwaldt cyst on nasal endoscopy.



Picture 2: Thornwaldt’s cyst as seen on MRI.

Treatment

Cyst was removed using debrider and coblator. Some yellowish to brownish discharge was noted within the mass.



Picture 3: Removal of cyst using powered instruments.

Histopathology

Cylindrical ciliated epithelium with hyperemia, lymphocyte infiltration, and proliferation of mucus glands with in-folding.

Differential diagnosis

Branchial cleft cyst, Rathke’s pouch cyst, adenoid retention cyst, meningoceles, sphenoid sinus mucoceles, and nasopharyngeal carcinoma.

Discussion

Thornwaldt’s cyst occurs in the midline of the nasopharynx above the upper border of the superior constrictor muscle. Usually this is asymptomatic and patients may present symptoms such as nasal obstruction, foreign body sensation, hearing loss due to close vicinity of Eustachian tube, periodic halitosis with an unpleasant taste and nasopharyngeal discharge [3]. The cyst becomes symptomatic when the lesion is more than 20–25 mm in diameter. On routine MRI done for other disorders showed incidence of 0.2% to 5% in otherwise asymptomatic cases. In our case the patient presented with nasal obstruction and nasal twang as the cyst was huge in size. Therefore, the patient became symptomatic. In many other literature and works thornwaldt’s cyst were generally small and asymptomatic and diagnosed by chance. Since this cyst is a benign lesion so asymptomatic cysts do not require treatment. Symptomatic cases can be operated by endonasal or transoral approach. Marsupialization is the procedure of choice to avoid recurrences [3]. Due the advancements in the recent age the powered instruments have proved to be of utmost importance and has made the removal hassle free and thus avoid the recurrence. Recently diode is also being used by many set ups and is providing promising results.

Conclusion

The treatment of choice for Thornwaldt’s cyst is surgical removal or marsupialization. In our case, we have removed the cyst endoscopically using powered instruments i.e., coblator and debrider. We have presented a case of huge Thornwaldt’s cyst with nasal obstruction and nasal twang as the presenting symptoms. The patient was kept on regular follow up and he has also got major relief in his symptoms even after one year. The quality of voice as well as the nasal obstruction has reduced up to a large extent.

Sources of Support and Funding

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Conflict of Interest

There are no competing or conflict of interest.

Consent for Participation

Taken.

Availability of Data and Materials

Available in the manuscript in method section.

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Author's Contribution

- SM Conceptualized, designed, has role in data collection, analysis, interpretation, surgical and medical practices, literature search and writing.
- DB Conceptualized, designed, has role in data collection, analysis, interpretation, surgical and medical practices, literature search and writing.
- PB Conceptualized, designed, has role in data collection, analysis, interpretation, surgical and medical practices, literature search and writing.
- SV Conceptualized, designed, has role in data collection, analysis, interpretation, surgical and medical practices, literature search and writing.

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