

TORNWALDT'S CYST- A HIDDEN ENTITY- A CASE REPORT

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HOW TO CITE THIS ARTICLE

Vakharia S D, Gupta S.R. .Vishwakarma Mb., Jaiswal S.A.Tornwaldt's cyst- a hidden entity- a case report. .orissa j otolaryngology head neck surgery 2017 june; 11(1):60-62. DOI: 10.21176/ojohlms.2017.11.1.11

Date of receipt of article- 08-02-2017

Date of acceptance – 24-02-2017

DOI- 10.21176/ojohlms.2017.11.1.11

DOI URL- <https://doi.org/10.21176/ojohlms.2017.11.1.11>

ABSTRACT:

Introduction: Tornwaldt's cyst is a benign developmental lesion originating within the midline of nasopharynx. Etiopathogenesis of this cyst is outpouching of the pharyngeal mucosa caused by retraction of notochord. Most of the cases are asymptomatic and are discovered as an incidental finding in patients undergoing diagnostic nasal endoscopy or radiological examination. However, recently the cases are on an upsurge which could be attributed to increased use of nasal endoscopy.

Case Report: Reported here is a case of 27-year-old man who complained of nasal obstruction and repeated nasal discharge for which diagnostic nasal endoscopy was performed which revealed a deviated nasal septum and a nasopharyngeal cystic lesion . Instead of CT Paranasal sinus, we opted MRI for further analysis of a nasopharyngeal cystic lesion following which endoscopic surgery was performed.

Conclusion: This paper emphasises on the importance of radiological and endoscopic examination in the diagnosis of the Tornwaldt's cyst.

Keywords: Nasopharyngeal cyst, Tornwaldt's cyst.

INTRODUCTION:

This entity is labelled in the memory of Dr. Gustoff L. Tornwaldt (19th century), who first described it. So, the accurate designation for this disease is Tornwaldt's Cyst and not Thornwaldt's¹. Tornwaldt's cyst is a benign developmental lesion within the nasopharyngeal midline, above the upper border of the superior constrictor muscle. It represents the embryonic communication between mesenchymal notochord remnant and endodermal-derived nasopharyngeal mucosa². It is developmental in nature, usually asymptomatic and found incidentally. So, the age of diagnosis represents age of imaging of the nasopharynx. It has an autopsy prevalence of approximately 4%.³. Most Tornwaldt's cysts appear clinically in the second and third decades of life, with both genders affected equally. Tornwaldt's cyst typically presents as occipital headaches, persistent nasal discharge (more often post-nasal drainage), and halitosis.

Less common symptoms at initial presentation include stiff cervical muscles and ear fullness or Eustachian tube dysfunction. On physical examination, nasal endoscopy is required to diagnose this cyst which appears as a smooth submucosal mass in the nasopharynx. It is superior to the adenoid pad and may have a central dimpling and/or yellow hue if infected or filled with fluid from recent irritation. While history and endoscopy can lead to the diagnosis, radiology is recommended to rule out other possibilities in the differential diagnosis.

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CASE REPORT:

A 27 year old male patient reported to the OPD with chief complaint of nasal obstruction and nasal discharge since 6 months. Repeated episodes of upper respiratory tract infection, snoring and nasal twang were accompanying complaints. Past medical and family history were not significant. History of multiple courses of antibiotics and anti-inflammatory drugs from physician with partial relief of symptoms was present. On anterior rhinoscopy deviated nasal septum to right, nasal mucosal congestion with discharge were evident with no mass in the nasal cavity. On Diagnostic Nasal Endoscopy a single midline well circumscribed smooth surfaced cystic mass arising from posterior wall of nasopharynx was seen (fig.1). The mass was covered with normal looking mucosa. Oral, Ear and Neck examination did not reveal any significant findings. MRI of neck (Plain) revealed well defined round to oval T1 & T2 hyperintense lesion of about 1.6 X 1.3 cm in the midline arising from posterior wall of nasopharynx with no evidence of any invasion and intracranial extension s/o cystic lesion- Tornwaldt's cyst(fig.2). Under general anaesthesia, the cystic lesion was marsupialised via endonasal and transoral retrovelar approach after endoscopic septoplasty. Patient's post-op period was uneventful with relief of all complaints and the raw surface epithelialized within 14 days.

DISCUSSION:

The nasopharynx is a cuboidal compartment extending from the base of the skull to the soft palate. Due to the unique development of the nasopharynx,

some authors argue that Nasopharyngeal cysts should be classified according to their relation to the pharyngobasilar fascia, which is the aponeurosis attachment of the superior constrictor muscle to the skull base 4. This fascia is only penetrated by the eustachian tubes and the levator veli palatine muscles and is a tight barrier between the superficial and deep structures of the nasopharynx. Nasopharyngeal cysts can also be classified according to their radiological appearance, in context to their symptomatology. Tornwaldt's bursa, also known as nasopharyngeal bursa, is a recess in the midline of the nasopharynx, which is produced by persistent notochord remnants. In 1912, Huber, in a description of the embryologic formation of Tornwaldt's bursa, reported that a potential space could develop in the nasopharynx at the point where the notochord retained its union with the pharyngeal endoderm. His report was the first to discuss this pathway for the ingrowth of respiratory epithelium and the formation of a potential space in the midline of the posterior superior angle of the nasopharynx (nasopharyngeal bursa) 5. The cyst is lined by respiratory epithelium and the cystic lumen contains fluid with variable proteins. Tornwaldt's cysts may also be acquired, following nasopharyngitis, surgical trauma (adenoidectomy) and chemoradiation for nasopharyngeal carcinoma in adults. Tornwaldt's cysts can be classified as crusting cysts and true cystic cysts. 6,7 The crusting types drain regularly and spontaneously into the nasopharynx while the cystic types do not drain because the drainage pathway is completely obstructed.



Fig-1: Nasal endoscopic view of Tornwaldt's cyst.

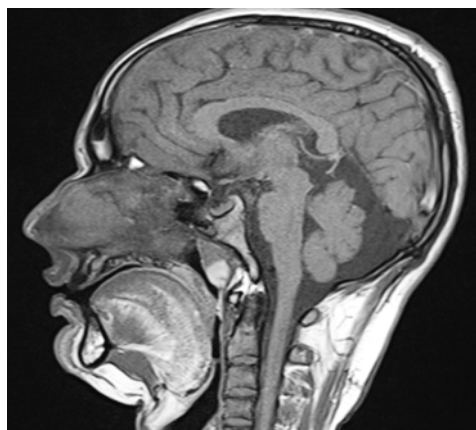


Fig-2: MRI of skull & skull base in sagittal section showing Tornwaldt's cyst.

Most cysts are small, measuring less than 1 cm in diameter and are discovered incidentally. Some are larger, causing nasal obstruction, snoring, halitosis, clearing of the throat, eustachian tube dysfunction, and a feeling of ear fullness. When the cysts become inflamed or infected, fluid may accumulate within the cyst leading to symptoms of occipital headache, pharyngeal pain, and purulent postnasal drip with a foul taste, neck stiffness and changes in olfaction. The diagnosis of Tornwaldt's disease begins with a history of symptoms, followed by confirmation by nasopharyngoscopy and other imaging studies. The findings are that of a usually centrally located smooth mass covered with intact mucosa having yellowish hue due to the cystic contents. The differential diagnosis should include meningocele or meningo-encephalocele. Occasionally, the lesion can be dark colored due to a hemorrhage or hemosiderin content. Computed tomogram (CT) scan shows a well-defined midline low density cyst on posterior nasopharyngeal wall. On contrast enhanced CT scan a rim of cyst may enhance but tornwaldt's cyst itself remains of low attenuation. MRI is now considered the best radiographic imaging study to diagnose the tornwaldt's cyst as the findings are highly characteristic. On MRI, it may have high signal on both T1- and T2-weighted sequences, presumably because the cyst contains a high concentration of protein, or blood products from prior hemorrhage, or both. Post contrast studies usually demonstrate peripheral enhancement of the nasopharyngeal mucosa⁸. Also, it may be hyperintense relative to gray matter on fluid-attenuated inversion recovery images.

Asymptomatic cysts, which may be an incidental finding on a CT or MRI, require no treatment⁹. When the lesion is large, symptomatic, or close to the eustachian tube torus, surgery by marsupialisation is the treatment option¹⁰. For small lesions, the endonasal approach is recommended but for large lesions, a transoral retrovelar approach using a 70 degree telescope is the method of choice.

CONCLUSION:

The diagnosis of a nasopharyngeal cyst is usually incidental unless it is large causing obstructive symptoms. Diagnostic Nasal endoscopy is a simple and rapid procedure to visualize such cyst. Depending on its appearance, surgical intervention may involve either a simple excision or a marsupialisation of a cyst either endoscopic or transoral approach. CT/MRI scan helps

in the diagnosis and to know the exact extent of the disease.

Acknowledgments- to Dr.PRIYA A. BHAGDE, Resident of oral pathology, GOVT. DENTAL COLLEGE, AURANGABAD.

DISCLOSURES:

- (a) Competing interests/Interests of Conflict- None
- (b) Sponsorships - None
- (c) Funding - None
- (d) No financial disclosures
- (e) Animal rights-Not applicable

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