

Case Report

Unusual symptoms of Thornwaldt's cyst: a case report

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ABSTRACT

Thornwaldt's cyst also known as bursa pharyngeal embryonalis which is formed by traction of notochord at the retropharyngeal wall at the site of contact. It is present in the midline, at the junction between nasopharyngeal vault and posterior pharyngeal wall. The bursa can extend upward and backward above the limit of superior constrictor muscle fibres. This bursa when infected becomes seat of inflammation and cyst formation occurred. The well-known Thornwaldt's cyst occurs as a result of obstruction of orifice of the bursa and is different from cyst of Rathke's pouch. Thornwaldt's cyst is usually asymptomatic but more than 1-2 cm may become symptomatic. Symptoms that commonly seen are halitosis, nasal discharge, nasal obstruction, epistaxis, prevertebral spasm, and rarely occipital headache and obstruction of Eustachian tube can occur. The diagnosis usually incidental as a part of a nasal endoscopic examination or radiological and endoscopic examination which is used to diagnose the cyst. On examination it appears as smooth mass with a central dimple. In this case report young female present with difficulty in swallowing, occipital headache, halitosis and fever. Initially she was managed conservatively when the cyst was resolved then it was marsupialized by transoral approach, with uneventful postoperative period. Other approaches for excision or marsupialization in symptomatic cases are endoscopic or transpalatal using powdered instrumentation.

Keywords: Nasopharynx, Cyst, Notochord, Eustachian tube

INTRODUCTION

Thornwaldt's cyst represents as a persistence of an embryonic communication between the anterior tip of the notochord and the roof of the pharynx.^{1,2} It is a developmental abnormality where communication between pharyngeal endoderm and notochordal remnants persist. When its opening becomes obstructed, may be due to infection or as a complication of adenoidectomy, a Thornwaldt's cyst may develop.³ Most cases are diagnosed in 2nd and 3rd decade of life. Its incidence has been reported to be 3-7% in the general population, 0.2% diagnosed as incidental in magnetic resonance imaging (MRI), and 3-4% in post-mortem studies.⁴ It is also diagnosis as an incidental finding on nasal endoscopic examination or radiological, it usually appears as smooth mass with a central dimple.⁵ Patient is usually

asymptomatic and only symptomatic cases needs to be treated. Apart from conservative treatment, surgery in form of powered instrumentation under endoscopic guidance or marsupialisation of the sac can be done. Commonly no recurrence is noted after marsupialisation.

CASE REPORT

A young 20 years old female, presented with 12 days history of difficulty in swallowing which was painful, rhinolalia clausa, nasal obstruction, fever of low-moderate grade no association with shivering and sweating, history of headache of same duration with intense pain in occipital region and association with nausea and vomiting. Routine ENT examination was normal. On posterior rhinoscopy examination we found smooth mucosa covered swelling in the nasopharynx with

whitish yellow spot seen in the centre. On endoscopic examination the finding was confirmed. On CECT scan from skull to vertex after administration of non-ionic contrast I/V, hypodense cystic non enhancing lesion of size 18 mm × 16 mm, confirming the diagnosis of Thornwaldt's cyst was noted along the nasopharynx roof with well-defined focus of calcification whereas all sinuses were cleared. MRI scan done to rule out white-matter disease and that showed a hyper intense lesion on T2 weighted image. Patient was first managed conservatively than taken up for surgery in form of marsupialisation under general anesthesia, entire anterior wall of the cyst was removed. Hemostasis was achieved. Tissue was sent for histopathological examination that confirmed the cyst as Thornwaldt's cyst. Post-operative period was uneventful. Patient came for follow up after 10 days, 1 month, 6 month and then yearly; without any recurrence till now.



Figure 1: Endoscopic view of Thornwaldt's cyst with whitish yellow spot seen in the centre.



Figure 2: CECT scan axial section showing hypodense cystic non enhancing lesion.



Figure 3: CECT scan coronal section showing thickening of posterior wall of nasopharynx.

DISCUSSION

In 1912, it was reported that a Thornwaldt's cyst developed as a recess, called as Thornwaldt's bursa, formed by the remnants of the notochord tissue with pharyngeal respiratory epithelium along the midline wall of the nasopharynx.⁶ Thornwaldt's cysts are clinically classified into two types. The first is the cystic type, which is more frequent and cannot drain into the nasopharynx spontaneously. The other is the crusting type, which regularly and spontaneously drains into the nasopharynx.⁷ The presentation of cystic form are nasopharyngeal inflammation, middle ear diseases because of Eustachian tube obstruction, granular pharyngitis, chronic laryngitis, bronchitis, bronchial asthma, and cough due to laryngeal irritation, very really occipital headache, and cervical pain.⁸ Whereas crusting type is less common type. Among the differential diagnosis of nasopharyngeal mass are Thornwaldt's cyst, branchial cleft cyst, Rathke's pouch cyst, adenoid retention cyst, meningocele or meningoencephalocele, choanal polyp, sphenoid sinus mucocele, angiofibroma, nasopharyngeal carcinoma, and papillary thyroid cancer metastases.^{9,10}

Thornwaldt's cyst can be managed conservatively if asymptotic but if symptoms are present then marsupialization of the cyst can be done using transoral approach with an angled microdebrider and a 70 degree endoscope with advantage of less trauma to the surrounding tissue and good hemostasis but the only disadvantage of microdebrider is difficulty in Histopathological evaluation due loss of palpation feeling and tissue integrity.¹¹ Laser is also commonly used as surgical procedure of choice because of less bleeding with only few limitations of long operative time. Postoperative edema, granulation and delayed healing as compared with conventional surgery.^{12,13}

In recent advance computer assisted endoscopic surgery use three dimensional reconstruction of the lesion using

preoperative CT scan image using axial, coronal and sagittal plane. This allows the surgeon to perform surgery.¹³ In our case endoscopic marsupialization was done, as having short surgery time, good palpation feeling, Histopathological evaluation was possible as tissue integrity was maintained and with less morbidity. When malignancy suspected and there is bone destruction or having extension into the pterygopalatine and/or the infratemporal fossa, then combined or open surgery can be used accordingly.

CONCLUSION

Thornwaldt's cyst is an uncommon diagnosis but should be kept in mind when the patients present with vague symptoms like post nasal drip or headache are and not relieved by conventional therapy. Radiological investigations especially CT or MRI are the standard investigation for making diagnosis. Asymptomatic cyst need to manage conservatively whereas for symptomatic cases surgery if necessary or marsupialisation of sac is the treatment of choice.

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