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Case Report

Thymopharyngeal cyst in an adult: a case report

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ABSTRACT

A rare case of a thymopharyngeal cyst is identified in a young woman from Rwanda, who presented with a centrally located neck mass. Thymopharyngeal cysts, remnants of embryological thymic tissue, are infrequent findings especially in adults, and their diagnosis requires high clinical suspicion. We review the clinical presentation, diagnostic workup, surgical management, and discuss the literature on this rare entity. Our case report emphasizes the importance of including thymopharyngeal cysts in the differential diagnosis of central neck masses.

Keywords: Thymopharyngeal cyst, Congenital central neck mass, Rwanda

INTRODUCTION

Thymopharyngeal cysts are rare congenital anomalies derived from the persistence of the thymopharyngeal duct during embryological development.[1] These cysts are more commonly observed in the lower neck, often in the midline or para-midline locations.[2]

Although typically benign, their clinical presentation can vary depending on the size, location, and associated complications such as infection. In this case, we document a thymopharyngeal cyst in a young woman and compare it with similar cases reported in the literature.

CASE REPORT

A 22-year-old female presented to the otolaryngology clinic with a 2-year history of a painless, progressively enlarging central, inferior neck mass. The patient reported no associated symptoms such as dysphagia, dyspnea, or voice changes. There was no history of infection, trauma, or systemic illness.

Clinical examination

On examination, a centrally located neck mass was observed, low in the cervical region (Figure 1). The mass was soft, non-tender, and mobile upon palpation. No lymphadenopathy or overlying skin changes were noted. There was no central pore or skin attachment.

Diagnostic workup

Ultrasound of the neck revealed a well-circumscribed, cystic lesion in the lower cervical region. A contrast-enhanced computed topography (CT) scan further delineated the lesion, confirming a fluid-filled, well-circumscribed cystic mass without significant enhancement or adjacent lymphadenopathy (Figure 2).

The cyst was located anterior to the thyroid bed, extending towards the superior mediastinum, consistent with a thymopharyngeal duct remnant. No signs of calcification or solid components were noted.

Surgical management

Surgical excision of the cyst was performed under general anesthesia. Through a transverse cervical incision, a careful dissection was performed to free the mass from surrounding tissues (Figure 3).

Vital structures, including the recurrent laryngeal nerve and thyroid gland, were identified and preserved. The excised specimen was sent for histopathological examination, confirming the diagnosis of a thymopharyngeal cyst. Microscopic evaluation revealed a cyst wall lined with squamous epithelium, including cholesterol clefts and lymphoid aggregates. Postoperatively, the patient recovered well with no complications.

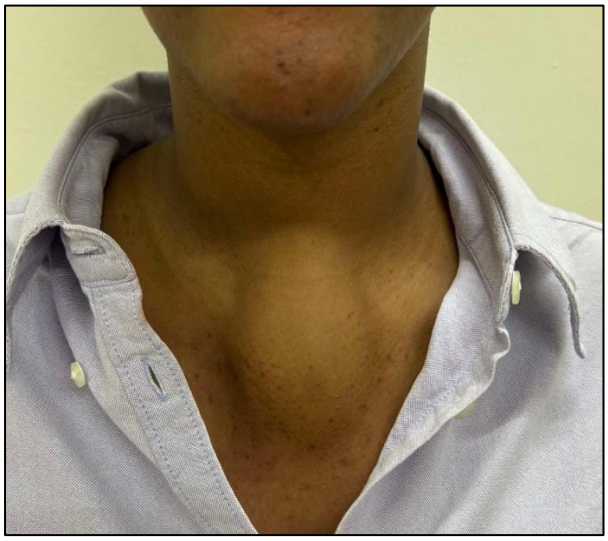

Figure 1: Preoperative clinical image showing the patient's neck mass in the midline cervical region.

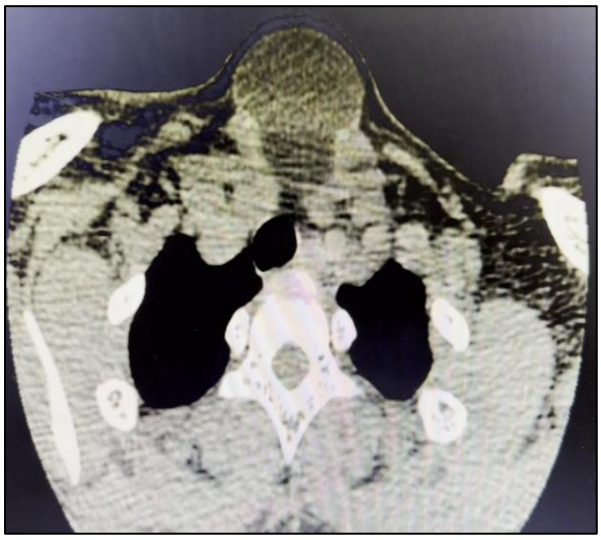

Figure 2: CT scan image showing a well-circumscribed, fluid-filled lesion anterior to the thyroid glands.

Figure 3: Intraoperative image showing the thymopharyngeal cyst during surgical dissection with a central attachment which was ligated.

DISCUSSION

Thymopharyngeal cysts are rare entities, with fewer than 100 cases reported in the literature.[3] They are remnants of the thymopharyngeal duct, an embryological structure that typically regresses during fetal development. When persistence occurs, it may give rise to cystic structures in the lower neck.

Most reported cases of thymopharyngeal cysts occur in the pediatric population, with only a minority presenting in adults. Over 85% of reported thymopharyngeal cyst cases occur in patients under the age of 18, with very few cases documented in adults.[3] The predominance of pediatric cases when such cysts present later in life.[4] This distinction highlights the unique nature of the current case, as adult presentations may be overlooked or misdiagnosed due to the rarity of this condition in this demographic. It underscores the importance of maintaining a broad differential diagnosis, even in older patients presenting with central neck masses.

Histologically, thymopharyngeal cysts often demonstrate a lining of stratified squamous or ciliated columnar epithelium, with thymic remnants identifiable in the cyst wall. This histopathological confirmation is critical for definitive diagnosis.[5] Surgical excision remains the gold standard for management.

Complete removal prevents recurrence and provides tissue for histopathological evaluation. Postoperative outcomes are generally excellent, with low recurrence rates reported in the literature.[1,2,6,7] Unlike thyroglossal duct cysts, which can have a connection to the oropharynx, or branchial cleft anomalies, which may have external fistulas, thymopharyngeal cysts are isolated and do not communicate with the esophagus or other parts of the digestive tract.

This case emphasizes the importance of including thymopharyngeal cysts in the differential diagnosis of central neck masses. Early diagnosis and surgical intervention are essential for optimal patient outcomes, particularly when adult presentations are encountered.

CONCLUSION

We present a rare case of a thymopharyngeal cyst in a young woman from Rwanda, manifesting as a centrally located neck mass. While thymopharyngeal cysts-embryological remnants of thymic tissue-are exceptionally uncommon in adults and often overlooked, this report underscores the necessity of maintaining clinical suspicion for such lesions.

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