International Journal of Otorhinolaryngology and Head and Neck Surgery
Serrano-Trejo I et al. Int J Otorhinolaryngol Head Neck Surg. 2024 Dec;10(6):729-731
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20243515

Case Report

Large thyroglossal duct cyst with a long term evolution: a case report

Isabel Serrano-Trejo[1], Zelik Luna-Peteuil[2], Ana C. Naranjo-Gonzalez[1], Kuauhyama Luna-Ortiz[1,3]*

[1]Department of General Surgery (Head and Neck), Hospital General Dr. Manuel Gea González, Mexico
[2]Universitatea De Medicinâ Si Farmacie Grigorie T. Popa, Iași, Romania
[3]Department of Head and Neck Surgery, Instituto Nacional de Cancerología, Mexico

Received: 23 July 2024
Accepted: 01 October 2024

***Correspondence:**
Dr. Kuauhyama Luna-Ortiz,
E-mail: kuauhyama@yahoo.com.mx

ABSTRACT

A 57-year-old male presented with a progressively enlarging mass in the anterior cervical region, persisting for 41 years without accompanying symptoms. Physical examination revealed a well-defined, mobile, soft mass measuring 16×15×15 cm, not fixed to deep tissues, and extending from the medial edge of the sternocleidomastoid muscle. Computed tomography scan showed a cystic lesion involving the hyoid bone, suggestive of a thyroglossal duct cyst. The patient underwent a Sistrunk procedure, with dissection from the base of the tongue to the sternal notch. He was discharged six hours after surgery without any complications and had a closed drainage system removed during a subsequent outpatient visit.

Keywords: Thyroglossal duct cyst, Long-standing, Sistrunk procedure, Head and neck

INTRODUCTION

During embryogenesis, the thyroid gland descends from the foramen cecum of the tongue to a position below the thyroid cartilage. The abnormal persistence of epithelial remnants along this path results in thyroglossal duct cysts (TDC).[1] These cysts are one of the most common neck lesions, with a bimodal age distribution in the first and fifth decades. Most cases (roughly 75%) appear as a mobile painless midline neck mass and one common clinical manifestation is rupture through the skin and subsequent infection.[2,3] TDC typically range from 1.2 to 2.4 cm in diameter, with larger or long-standing cases being uncommon. We report a case of an unusually large and long-standing thyroglossal duct cyst.

CASE REPORT

A 57-year-old male, with no history of chronic degenerative diseases, presented with an enlarging mass in the anterior cervical region that had been growing since he was 16, without causing respiratory obstruction or dysphagia. Physical examination revealed a well-defined, mobile, soft mass measuring 16×15×15 cm, not fixed to deep tissues, and extending from the medial edge of the sternocleidomastoid muscle to the medial edge of the contralateral muscle, with no palpable lymph nodes. Computed tomography scan showed a cystic lesion involving the hyoid bone, suggestive of a thyroglossal duct cyst, though deemed inconclusive due to its 41-year evolution (Figure 1 A-D). Surgery was performed using an anterior cervical approach, starting above the sternal notch. A lesion of approximately 16×15×15 cm was found in the anterior cervical space.

The patient underwent a Sistrunk procedure, with dissection from the base of the tongue to the sternal notch (Figure 2 A-D). He was discharged six hours after surgery without any complications and had a closed drainage system removed during a subsequent outpatient visit.

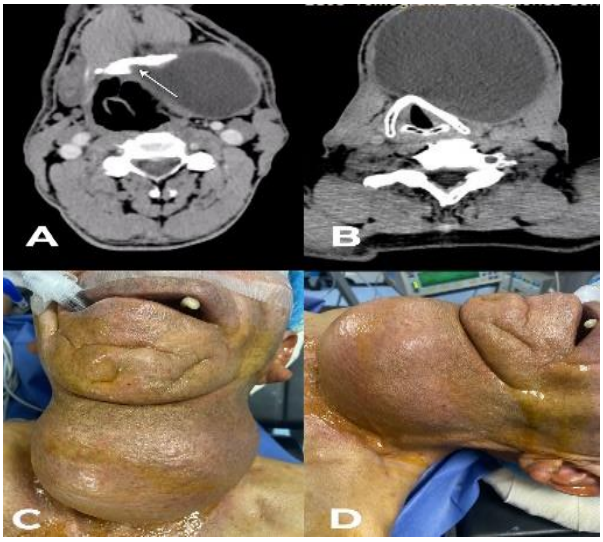

Figure 1 (A-D): Computed tomography shows thyroglossal cyst clearly in relation to hyoid bone, as indicated by the arrow. CT reveals large size of thyroglossal cyst. Preop frontal view of thyroglossal cyst. Lateral view of the thyroglossal cyst.

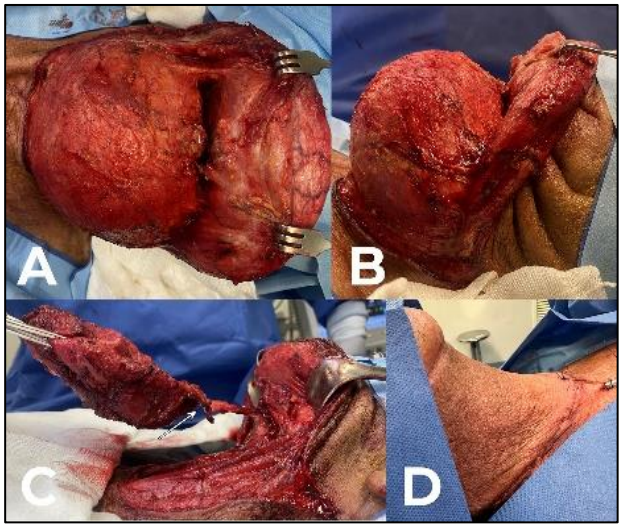

Figure 2 (A-D): Frontal view after skin flap was lifted. Lateral view of large tumor size. Arrow indicates hyoid bone infiltration, which required Sistrunk procedure. Lateral view after skin flap was sutured.

DISCUSSION

TDC account for 70% of congenital neck cysts. One third of the cases occur in adults, with an average size of 2-4 cm. Larger cysts are observed in older patients due to progressive growth.[3-13]

Thyroglossal duct cysts generally atrophy and disappear during their descent by the tenth week of gestation. They may persist anterior to or through the hyoid bone, but exceptions exist where they can persist posterior to the hyoid bone, occurring at any point between the base of the tongue and the thyroid gland.

A thyroglossal cyst arises as a cystic expansion, although the cause of it is unknown. Many of these cysts are treated due to their increasing size or infection, with material discharge occurring on the anterior surface of the neck, usually at the hyoid bone. Many cases are never clinically detected and are discovered in postmortem studies.[9]

Reports of large TDC are rare; in a retrospective analysis of 685 cases over ten years, the sizes ranged from 0.2 cm to 8.5 cm, with an average size of 2.6 cm, indicating that smaller cysts are more common.[14]

Cases of thyroglossal duct cysts larger than ten cm (averaging 9.2-11 cm×7.6-9 cm) were found in men aged 65-85 years, who reported slow and progressive growth for up to twenty years, as shown in Table 1.

Most patients sought medical attention only when the increasing size began to interfere with their daily activities, without significant signs of airway obstruction or severe dysphagia. In the present case, the patient had lived with a large mass on the anterior surface of the neck for 41 years.

Despite its size, the mass never showed any signs of infection and grew gradually without causing any noticeable issues beyond its presence.

Recurrence of thyroglossal duct cysts is most common within the first year after surgery, so follow-up for at least this period is advised.[3]

Table 1: Case reports of large thyroglossal cysts.

Authors	Gender/age (in years)	Size (cm)	Symptoms	Procedure	Time of evolution
Baisakhiya[4]	M/65	11×2	None	Sistrunk	1 year
McNamara et al[5]	F/85	8.2×7.2	Dysphagia, stridor	Sistrunk	8 years
Marom et al[6]	M/35	30×24	Dysphagia, drooling	Sistrunk	?
Ramalingan et al[7]	M/59	8×6×5	None	Sistrunk	5 years
Alavi et al[8]	M/55	7×7 (mediastinal)	Retrosternal pain, dry cough	Thoracotomy	Months
El-Ayman et al [9]	M/85	9.2×7.6	Discomfort with head turning	Sistrunk	65 years

Continued.

Authors	Gender/age (in years)	Size (cm)	Symptoms	Procedure	Time of evolution
Abebe et al[10]	F/19	12 in largest diameter	Mild pain	Simple excision	3 years
Mortaja et al[11]	F/36	7.5×7×5	Dysphagia	Sistrunk	6 years
Athanasios et al[3]	M/44	8×7	Dysphagia, mild dyspnea	Sistrunk	10 years
Granato et al[12]	F/65	3.5×2.5 (mediastinal)	None, incidental finding	Transcervical approach	?
Chon et al[13]	F/40	5×6 (superior mediastinum)	Mild dysphagia	Transcervical approach	?
Present case	M/57	16×15	None	Transcervical approach, Sistrunk	41 years

CONCLUSION

The abnormal presentation of thyroglossal cysts in terms of size or age of onset poses a diagnostic challenge. It should be considered part of the differential diagnosis in patients over 65 years with slow and progressive swelling in the anterior cervical region.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Hassan NE, See GB, Dayang, Aziz DA. Thyroglossal duct cysts-a ten years retrospective review. East J Med. 2014;19(2):112-8.
2. Thompson LD. Thyroglossal duct cyst. Ear Nose Throat J. 2017;96:54-55.
3. Fountarlis AL, Koltsidopoulos P, Jiannis H, Vasileios L, Nick K, Efthymios S, et al. A large thyroglossal duct cyst and its management: a case report. Pan Afr Med J. 2023;5:44:10.
4. Baisakhiya N. Giant Thyroglossal Cyst in an Elderly Patient. Indian J Otolaryngol Head Neck Surg. 2011;63(1):27-8.
5. McNamara K, Olaleye O, Smith J, Karamchandani D, Watkinson J. A rare case of a concurrent large thyroglossal duct cyst with a base of tongue haemangioma. BMJ Case Rep. 2011;2011:bcr1020103393.
6. Marom T, Roth Y, Levy D, Cinamon U. Extraordinary adult thyroglossal duct cyst. Otolaryngol Head Neck Sur. 2012;147:393-4.
7. Ramalingam W, Chugh R. Thyroglossal duct cyst: Unusual presentation in an adult. J Laryngol Voice 2013;3:61-3.
8. Alavi A, Asadi Gharabaghi M. Thyroglossal duct cyst presenting as a large isolated mass within the middle mediastinum. BMJ Case Rep. 2015;2015:bcr2015209643.
9. El-Ayman YA, Naguib SM, Abdalla WM. Huge thyroglossal duct cyst in elderly patient: Case report. Int J Surg Case Rep. 2018;51:415-8.
10. Abebe E, Megersa A, Abebe K. Huge thyroglossal duct cyst at the supra-sternal notch. J Surg Case Rep. 2019;2019(4):rjz112.
11. Mortaja S, Sebeih H, Alobida NW, Al-Qahtani K. Large Thyroglossal Duct Cyst: A Case Report. Am J Case Rep. 2020;21:e919745.
12. Granato F, Roberts F, West D. Un quiste del conducto tirogloso del mediastino anterior. Ann Thorac Surg. 2011;92:1118-20.
13. Chon SH, Shinn SH, Lee CB. Quiste del conducto tirogloso dentro del mediastino: una ubicación extremadamente inusual. J Thorac Cardiovasc Surg. 2007;133:1671-2.
14. Thompson LD, Herrera HB, Lau SK. A Clinicopathologic Series of 685 Thyroglossal Duct Remnant Cysts. 2016;10(4):465-74.

Cite this article as: Serrano-Trejo I, Luna-Peteuil Z, Naranjo-Gonzalez AC, Luna-Ortiz K. Large thyroglossal duct cyst with a long term evolution: a case report. Int J Otorhinolaryngol Head Neck Surg 2024;10:729-31.