Thyroglossal Duct Cyst in an 8-Year-Old Girl

January 01, 2007
By Alexander K. C. Leung, MD [1], Alexander K. C. Leung, MD [1], and W. Lane M. Robson, MD [2]

Eight-year-old girl with mass in midline of neck. Mass first noted about 6 months earlier. Patient is otherwise well; past health unremarkable. No symptoms of hypothyroidism.

HISTORY
Eight-year-old girl with mass in midline of neck. Mass first noted about 6 months earlier. Patient is otherwise well; past health unremarkable. No symptoms of hypothyroidism.

PHYSICAL EXAMINATION
Patient not in distress. Respiratory rate, 18 breaths/min; heart rate, 76 beats/min; temperature, 37.2°C (98.8°F). Cystic mass, 0.5 cm in diameter; not tender; moves upward with protrusion of the tongue. Examination otherwise normal.

Thyroglossal duct cysts are the most common cause of a midline neck mass in children. The cyst is a persistent remnant of thyroglossal duct epithelial tissue.

WHATS YOUR DIAGNOSIS?

EMBRYOLOGY
The thyroid anlage arises from the foregut diverticulum at the site of the future foramen cecum at about the third week of gestation. As the neck develops, the thyroid gland descends along the midline of the neck, between the first and second branchial arteries, and ventral to the hyoid bone and the developing laryngeal cartilage. The thyroid gland remains connected to the foramen cecum by the thyroglossal duct during the descent. A cyst results when the thyroglossal duct fails to involute after the descent of the thyroid gland.

EPIDEMIOLOGY
The exact incidence is not known. Thyroglossal duct cysts account for approximately 70% of all congenital abnormalities of the neck. The sex ratio is equal. Most cases are sporadic. The cysts are occasionally inherited as an autosomal dominant disorder or, rarely, as an autosomal recessive disorder.

CLINICAL MANIFESTATIONS
A thyroglossal duct cyst presents as a midline neck mass, which may move with swallowing and might move upward with protrusion of the tongue. However, its movement may be limited with protrusion of the tongue because of its persistent attachment to the foramen cecum.

Approximately 1% of the cysts are located laterally, often on the left side. A thyroglossal duct cyst can occur at any site along the normal pathway of descent from the foramen cecum to the lower neck region. The most common site (61% of cases) is between the thyroid gland and the hyoid bone. Other potential sites include suprathyroidal (24%), suprasternal (13%), or intralingual (2%) locations.

Although thyroglossal duct cysts are congenital, these lesions rarely present in the neonatal period. More commonly, the cysts are noted in preschool children, sometimes after an upper respiratory tract infection. At least 50% of the lesions are diagnosed in the second decade of life. Some do not present until adulthood. Presentation in the elderly is rare.

COMPLICATIONS
Thyroglossal duct cysts commonly present as an infected neck mass. Recurrent infections are common if the lesion is not excised. Rarely, a thyroglossal duct cyst might cause extrinsic airway compression or intralaryngeal extension with resultant dyspnea or hoarseness. An intralingual thyroglossal duct cyst might result in dysphagia or speech impairment.

A thyroglossal duct cyst has the potential for malignant transformation during childhood, but this is uncommon.

DIFFERENTIAL DIAGNOSIS
The differential diagnosis includes midline dermoid cyst, ectopic thyroid tissue, lymphadenopathy, cystic hygroma, branchial cleft cyst, lipoma, lymphangioma, hemangioma, and sebaceous cyst.

HISTOPATHOLOGY
Thyroglossal duct cysts are lined by pseudostratified ciliated columnar epithelium (61% of cases), stratified squamous epithelium (38%), transitional epithelium (7%) or cuboidal epithelium (7%). The cysts contain colloid material with cholesterol crystals and phagocytes.

DIAGNOSTIC STUDIES
Ultrasoundography can be used to confirm the cystic nature of the lesion and the presence of a normal-appearing and normally situated thyroid gland. The ultrasonographic appearance of the lesion can be anechoic, homogeneously hypoechoic, or heterogeneous.

TREATMENT
The Sistrunk procedure is the surgical treatment of choice.\textsuperscript{4,12} It includes excision of the cyst, the thyroglossal tract, and the central portion of the hyoid bone to prevent recurrence.\textsuperscript{4,12}

**References:**


**Source URL:** [http://www.psychiatrictimes.com/thyroglossal-duct-cyst-8-year-old-girl](http://www.psychiatrictimes.com/thyroglossal-duct-cyst-8-year-old-girl)

**Links:**

[1] [http://www.psychiatrictimes.com/authors/alexander-k-c-leung-md](http://www.psychiatrictimes.com/authors/alexander-k-c-leung-md)
[2] [http://www.psychiatrictimes.com/authors/w-lane-m-robson-md](http://www.psychiatrictimes.com/authors/w-lane-m-robson-md)