Thyroglossal Cyst: An Unusual Appearance


Abstract
Thyroglossal duct cysts are most common congenital neck masses, usually presenting in childhood. Uncommonly the cysts present clinically in adult life as an asymptomatic neck swelling. On rare occasions it presents with more sinister symptoms like dysphagia and dyspnoea. We present a case of dumbbell shaped thyroglossal cyst in an adult with both juxtahyoid and infrahyoid components, which to the best of our knowledge has not been documented in literature earlier. CT scan adequately delineated the extent of the thyroglossal duct cyst and could differentiate it from other median-paramedian neck masses. A thyroglossal cyst should be considered in the differential diagnosis of midline-paramedian neck masses in an adult.

Introduction
The thyroglossal duct cyst is the most common congenital neck mass, accounting for 70% of congenital neck anomalies and second most benign neck mass, after lymphadenopathy.1

Case Report
A 37 yr old male patient presented with a paramedian swelling on the left side of neck since twenty days. Clinical examination favoured a cystic lesion which moved on protrusion of tongue. Clinical diagnosis of thyroglossal cyst was made. CT neck was advised for confirmation of the diagnosis and to know the extent of the lesion. Plain and contrast CT of the neck was performed on 64 slice Siemens scanner and images were reconstructed in sagittal and coronal planes. CT neck showed a well circumscribed, fluid attenuation, thin walled, dumbbell shaped cystic lesion with a midline, juxtahyoid, pre-epiglottic component (Fig. 1). The lesion was extending inferolaterally into the left sided strap muscles through the thyrohyoid membrane (Figs. 2 and 3). It showed mild wall enhancement on the post contrast scan. The infrahyoid, paramedian component within the strap muscles differentiated it from the second arch branchial cyst. The midline, pre-epiglottic, juxtahyoid component differentiated it from the mixed variety of laryngeal mucocele. The cyst was excised completely along with the midpart of the hyoid bone. Postoperative histopathology confirmed the diagnosis of thyroglossal duct cyst.

Discussion
The primitive thyroid gland descends in the...
neck from foramen caecum to the inferior part of neck by the 7th week, after descending anterior to thyrohyoid membrane and strap muscle. During migration it is connected to the tongue by a narrow tubular structure - the thyroglossal duct. This structure usually involutes by 8th to 10th week of gestation. If any portion of the thyroglossal duct persists, secretions from the epithelial lining (likely to represent repeated local infection and inflammation) may give rise to the cystic lesions. The duct is intimately associated with developing hyoid bone, usually passing...
As a result, most thyroglossal duct cysts are either juxtahyoid (15%) or infrahyoid (65%).

About 50% of patients present before 20 yrs of age, with a second group of patients presenting in young adulthood. A thyroglossal duct cyst usually manifests as an enlarging painless mass in a child. Rarely it can present in adulthood as well. On rare occasions a thyroglossal cyst can present with more sinister symptoms such as hoarseness, dysphagia and dyspnoea. The characteristic upward movement on tongue protrusion is the pathognomonic feature. Many patients present clinically as a consequence of infection. It is located in midline (75% of cases) or slightly off midline (25%) in the anterior neck; however within 2 cm of midline. Most thyroglossal cysts in a paramedian location, occur on the left for the reasons not well understood.

On ultrasound imaging, the finding of an anechoic, thin walled lesion in the characteristic location easily establishes the diagnosis, this 'classic' appearance is seen in less than half of the cases. More commonly, these cysts appear as hypoechoic masses, often with increased through transmission. This is more likely due to the proteinaceous content of the fluid secreted from the cyst wall rather than infection.

CT scan shows a well circumscribed lesion with homogeneous fluid attenuation values (10 to 8 HU) and peripherally enhancing thin rim. A complicated thyroglossal cyst with elevated attenuation values of the fluid due to increased protein content mimics a solid mass; however no appreciable enhancement on contrast images may suggest the diagnosis. In such cases MRI can clearly demonstrate the cystic nature of the lesion. On T1 weighted images the signal intensity depends on the cyst contents- pure serous fluid will be hypointense; complicated cysts with proteinaceous or mucoid contents will appear hyperintense. On T2-weighted images, they will have very high signal regardless of the fluid content. Lack of enhancement following gadolinium administration supports the cystic nature of the lesion.

Juxtahyoid cyst may notch the hyoid bone. Infrahyoid cysts are almost always embedded in the strap muscles. This appearance may resemble a 'snake swallowing an egg' and is helpful in differentiating a thyroglossal from the branchial cleft cyst which is usually posterolateral to these muscles. Another differential diagnosis of thyroglossal cyst straddling the thyrohyoid membrane is a mixed laryngeal mucocoele. However the endolaryngeal origin of the mucocoele differentiates the two.

The co-existence of carcinoma in a thyroglossal duct cyst is rare, occurring in less than 1% of cases. In 75-80% of the cases, the histologic features of papillary carcinoma of thyroid tissue are demonstrated. An eccentric mass in the cyst wall or a solid mass in the expected course of the thyroglossal duct should prompt consideration of a complicating cancer, especially if calcified.

Surgery is the treatment of choice for all thyroglossal duct cysts. Because the embryonic hyoid bone forms around the thyroglossal duct, it is important to remove the body of hyoid along with the thyroglossal duct and follow it to the foramen caecum at the base of the tongue (Sistrunk procedure). The recurrence rate following this procedure is 2-6% which is much lower as compared to when incomplete excision is performed (upto 38%).

References
THIGH-LENGTH COMPRESSION STOCKINGS AND DVT AFTER STROKE

Deep vein thrombosis (DVT) and pulmonary embolism (PE) are key complications after stroke that can lead to substantial morbidity and mortality. An additional intervention is the use of graduated compression stockings (GCS), the efficacy of which, although shown for surgery is unproven in stroke.

The use of GCS was associated with a four-fold increase in skin ulcers and necrosis.

These findings suggest that GCS do not work after stroke although they do work after surgery.

In summary, GCS do not reduce DVT or overall VTE in patients with recent stroke; indeed, they damage the skin and might promote limb ischaemia. GCS should not be used after stroke and current guidelines will need to be amended.