

# Thyroglossal Duct Cyst

→ You have a pt with a central neck lump that moves upwards with swallowing and upon protrusion of the tongue  
↳ This is most likely a thyroglossal Duct Cyst (which is developmentally related to the thyroid gland)

→ Developmentally, the thyroid gland consists of a central (median) part, and lateral components  
↳ (thyroid primordium) = (The median thyroid anlage)  
\* The thyroid primordium develops from the Foramen cecum of the tongue (the floor of the oropharynx)  
↳ so, the Foramen cecum of the tongue marks its site of origin      ↳ = thyroglossal duct  
and the thyroglossal track is the path along which the thyroid gland migrates to its final location in the neck.

\* In the 10th week of gestation the thyroglossal duct disappears (it involutes)

\* As for the lateral components of the thyroid gland, as well as the parathyroid glands, they originate from pharyngeal pouches

↳ The lat. thyroid components and the SUPERIOR parathyroids → they come from the 4th pharyngeal pouch

↳ The thymus and the INFERIOR parathyroids → they come from 3rd pharyngeal pouch  
(see slide 2)

thyroid gland ⇒ يذهب إلى العنق؟ كذلك هل هو يذهب إلى

Sup. parathyroids ⇒ يذهب إلى أعلى وهو يذهب إلى inf. parathyroids ⇒ إلى

\* So... because of its longer migratory path to its final location, inf. parathyroid glands are more likely to be ectopic

↳ Where is the most common location of an ectopic inf. parathyroid?

Thymus (in the ant. mediastinum in association with the thymus or thyroid gland)

→ Remember that the thyroid gland consists of 2 types of cells: follicular cells and parafollicular cells (C cells)

\* Parafollicular cells are of neural crest origin

↳ cells of neural crest origin migrate during embryogenesis to the LATERAL components of the thyroid gland. → They do NOT involve the central part of the thyroid gland

\* Note: In the central part of the thyroid gland, we have the pyramidal lobe

↳ If the thyroglossal duct did not involute, this lobe will be considered a continuation to the duct.

? Which is the only cancer that you would not find in a pyramidal lobe or in a thyroglossal duct cyst?

Medullary Ca

What is the most common Ca you will probably find in a thyroglossal duct cyst?

Papillary Ca

→ Thyroglossal Duct Cyst

↳ Persistent thyroglossal duct → cystic degeneration

↳ Its hallmark/characteristic is that it moves with protrusion of the tongue

↳ small ?

Note: Sometimes when the thyroglossal cyst is swollen, and you ask the pt to protrude their tongue → you can't appreciate its movement → therefore palpation is more informative

↳ So do both inspection and palpation

\* The thyroglossal cyst is the most common congenital ~~anomaly~~ cervical anomaly and the most common developmental anomaly of the thyroid gland (7% of the adult population have it)

→ The most common location of a thyroglossal cyst is at or below the level of the hyoid bone  
(but it can occur anywhere along the thyroglossal duct track)  
(isthmus) 2nd or 3rd tracheal rings → base of tongue → ↵

→ Dx of thyroglossal cyst:

Clinical Dx and should be confirmed by imaging studies

↪ the simplest imaging study for it is a neck US

→ What are the benefits of doing a neck US?

① to confirm Dx

② gives us an idea of the cyst's nature

Ca → سرطان الغدة الدرقية

most common Ca → Papillary Ca

2nd most common → Squamous cell Ca

\* Never occurs → Medullary Ca

→ How?! the presence of a solid component or <sup>(mural component)</sup> calcifications (microcalcifications) is suggestive of malignancy

③ lets us see the thyroid gland itself

لأنه developmental anomaly في أنه موجود في الموضع المُناسب

يمكن يكون في غيره (إذا أنه الغدة موجودة

بعملية الخزع أو 8)

→ Why do we have to manage a thyroglossal cyst?

- There is a risk of infection (cuz it contains lymphatic channels) with a subsequent risk of abscess or fistula formation

- There is a risk of malignancy

بس ن kali بالنا إنه من risk factor for Ca common risk factor for Ca هي malignancy التي تكون فيه thyroglossal cyst

→ We know that developmentally the thyroglossal track extends from the foramen cecum of the tongue → passes the hyoid bone → until finally reaching the isthmus of the thyroid gland (present at the level of the 2nd and 3rd tracheal rings)

cyst ↗ مثلث زجاجي ↗ to ← thyroglossal cyst ↗ مثلث زجاجي  
embryological track ↗ اسفل ، risk of recurrence ↗ مثلث زجاجي ↗ ... لاحقاً ...  
(recurrence rate ≈ 60% if the track isn't removed) ↗ to ↗ اسفل

\* So to ↓ the risk of recurrence → the entire track should be removed with the cyst

↳ Therefore the central part of the hyoid bone

+ the thyroglossal cyst

+ the thyroglossal duct remnant

all should be excised

\* This procedure minimizes the recurrence from over 60% to < 10%.

\* This procedure is called Sistrunk's procedure

**1- All of the following are true regarding a thyroglossal duct cyst except:**

- a) The most common malignancy following papillary carcinoma is squamous cell carcinoma
- b) US-guided FNAC should be performed routinely
- c) Medullary carcinoma has not been reported in a thyroglossal cyst
- d) Thyroid tissue is present in the wall of the cyst in 30% of cases
- e) Sistrunk's procedure is preferred over cystectomy

Answer: B

**2 - A 25 year old male presents with a midline neck lump that moves upward upon protrusion of the tongue. Neck U'S revealed a cyst with calcification in the wall. Your next step will be:**

1. Thyroid function test
2. US-guided FNAC
3. Neck CT
4. Cyst aspiration
5. Sistrunk's procedure

Answer : 2

**86. Regarding thyroglossal cyst, the following are true, except:**

- a) Thyroid isotope scan is mandatory for its diagnosis
- b) Its excision should include the body of the hyoid bone
- c) Its wall may contain normal thyroid tissue
- d) It moves upward with protrusion of the tongue
- e) It is usually cystic

**Answer: A**

85. A thyroglossal cyst was found to harbor malignancy post Sistrunk's procedure; the least likely is:

- a) Squamous cell carcinoma
- b) Hürthle cell carcinoma
- c) Papillary carcinoma
- d) Follicular variant of papillary carcinoma
- e) Medullary carcinoma

**Answer: E**