

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 تقطنها التي رَح المسافة التي رَح تقطنها ال thyroid gland
Sup. parathyroids تقطنها ال Sup. parathyroids
inf. parathyroids تقطنها ال inf. parathyroids

* 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? لا

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)
← من ال base of tongue ال 2nd or 3rd tracheal rings (عن ال isthmus)

→ 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

← لأننا ممكن إننا نهاب Ca
→ most common Ca → Papillary Ca

2nd most common → Squamous cell Ca

* Never occurs → Medullary Ca

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

③ lets us see the thyroid gland itself

← ليس بي أشوفها؟ لأنه مجرد ما إنه فيه developmental anomaly
ممكن يكون في غيرها (مثلا) بيشف إذا إنه الغدة موجودة بمكانها الصحيح أو لا

→ 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

بي نخلي بياننا إنه متى common إنه يكون في malignancy في و
فكرة، إنه يكون فيه thyroglossal cyst كـ يعتبر risk factor for Ca

→ 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)

لما يكون في عنق thyroglossal cyst ← ما يربط أرواح أنسجته ال cyst
لحاليا ... ليس ؟ لأنه يكون في risk of recurrence ، لأنه ال embryological track
مهل ذي ما هو (recurrence rate $\approx 60\%$ if the track isn't removed)

* 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