

# Important neck pathology

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Branchial cyst

A **branchial cyst**, thought to develop from the vestigial remnants of the second branchial cleft, is usually lined by squamous epithelium, and contains thick, turbid fluid full of cholesterol crystals.

**The cyst** usually presents in the upper neck in early or middle adulthood and is found at the junction of the upper third and middle third of the sternomastoid muscle at its anterior border.

**It is a fluctuant swelling** that may transilluminate and is often soft in its early stages so that it may be difficult to palpate

Other theories hypothesise that branchial cysts develop from cystic transformation of cervical lymph nodes.

**If the cyst becomes infected**, it becomes erythematous and tender and, on occasions, it may be difficult to differentiate from a tuberculous abscess.

**Ultrasound and FNA** both aid diagnosis, and **treatment** is by complete excision.

Although the anterior aspect of the cyst is easy to dissect, it may pass backwards and upwards through the bifurcation of the common carotid artery as far as the pharyngeal constrictors.

It passes superficial to the hypoglossal and glossopharyngeal nerves, but deep to the posterior belly of the digastric.

These structures and the spinal accessory nerve must be positively identified to avoid damage.



# Branchial fistula

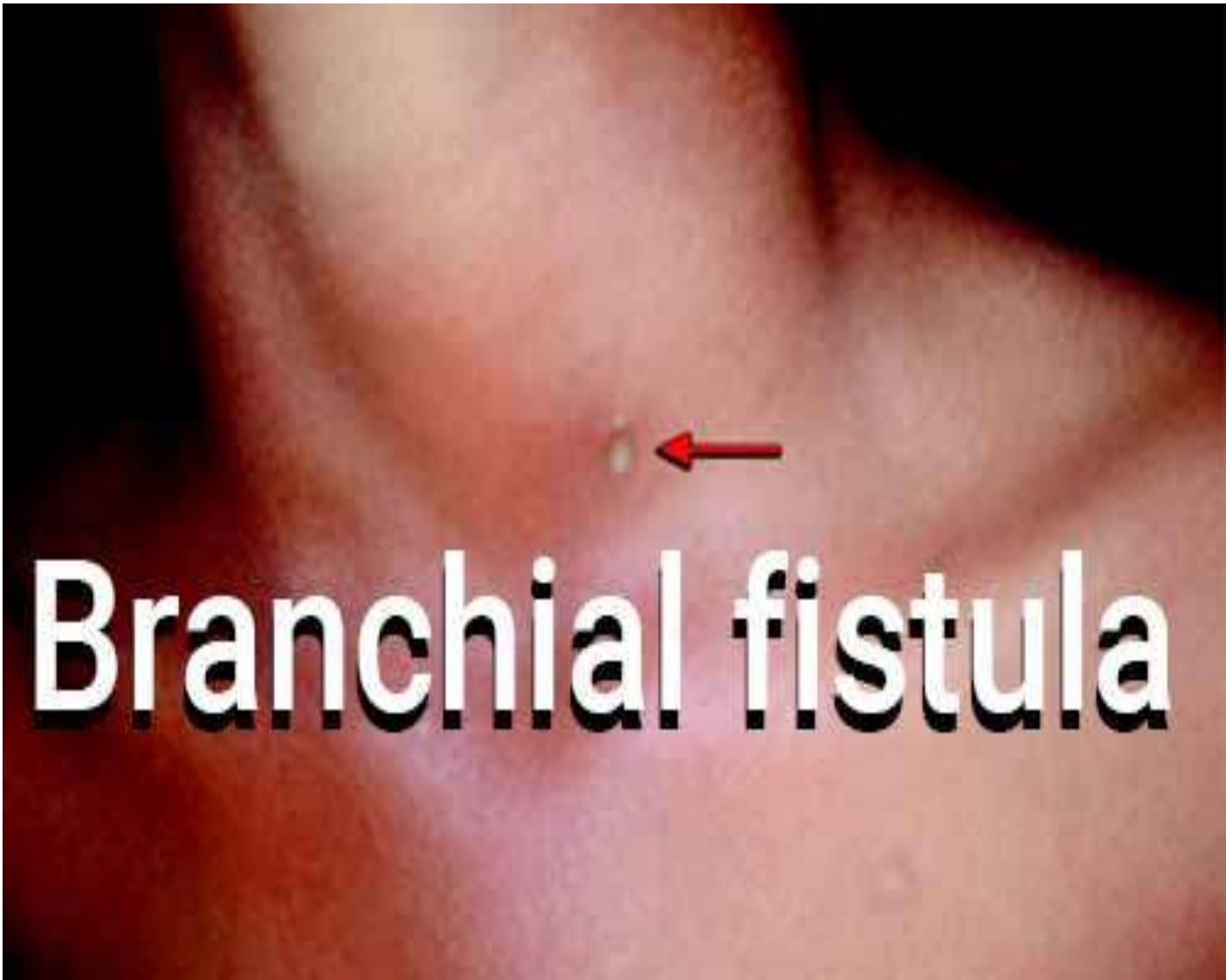
A **branchial fistula** may be unilateral or bilateral and is thought to represent a persistent second branchial cleft.

The **external orifice** is nearly always situated in the lower third of the neck near the anterior border of the sternocleidomastoid, while the **internal orifice** is located on the anterior aspect of the posterior faucial pillar just behind the tonsil.

However, the internal aspect of the tract may end blindly at or close to the lateral pharyngeal wall, constituting a sinus rather than a fistula.



**The tract** is lined by ciliated columnar epithelium and, as such, there may be a small amount of recurrent mucous or mucopurulent discharge onto the neck. The tract follows the same path as a branchial cyst and **requires complete excision**, often by more than one transverse incision in the neck



**Branchial fistula**



# Thyroglossal duct cysts

# Embryology

The thyroid gland descends early in fetal life from the base of the tongue towards its position in the lower neck with the isthmus lying over the second and third tracheal rings.

At the time of its descent, the hyoid bone has not been formed and the track of the descent of the thyroid gland is variable, passing in front, through or behind the eventual position of the hyoid body.

Thyroglossal duct cysts represent a persistence of this track and may therefore be found anywhere in or adjacent to the midline from the tongue base to the thyroid isthmus. Rarely, a thyroglossal cyst may contain the only functioning thyroid tissue in the body.

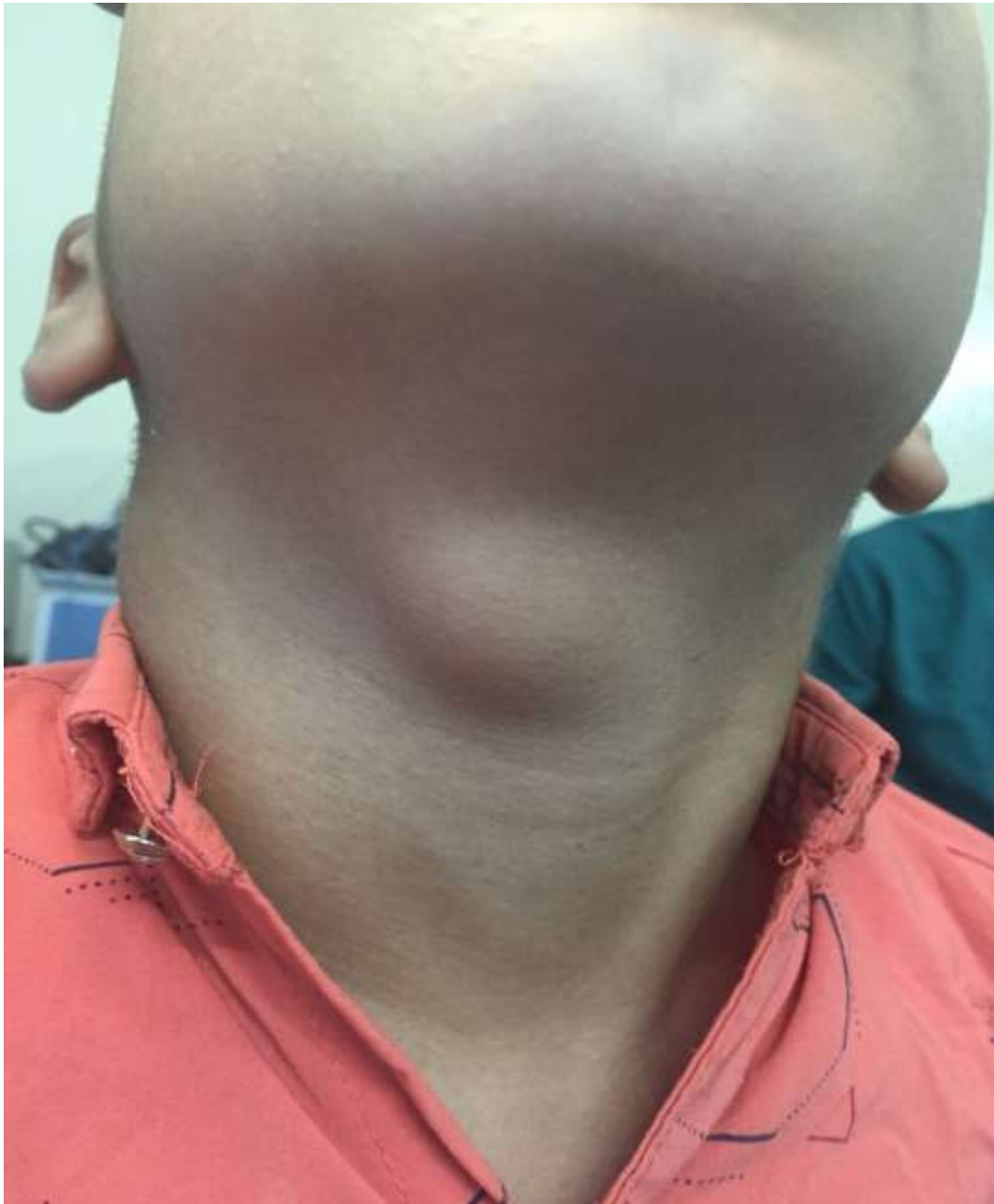
## Clinical features

The cysts almost always arise in the midline but, when they are adjacent to the thyroid cartilage, they may lie slightly to one side of the midline.

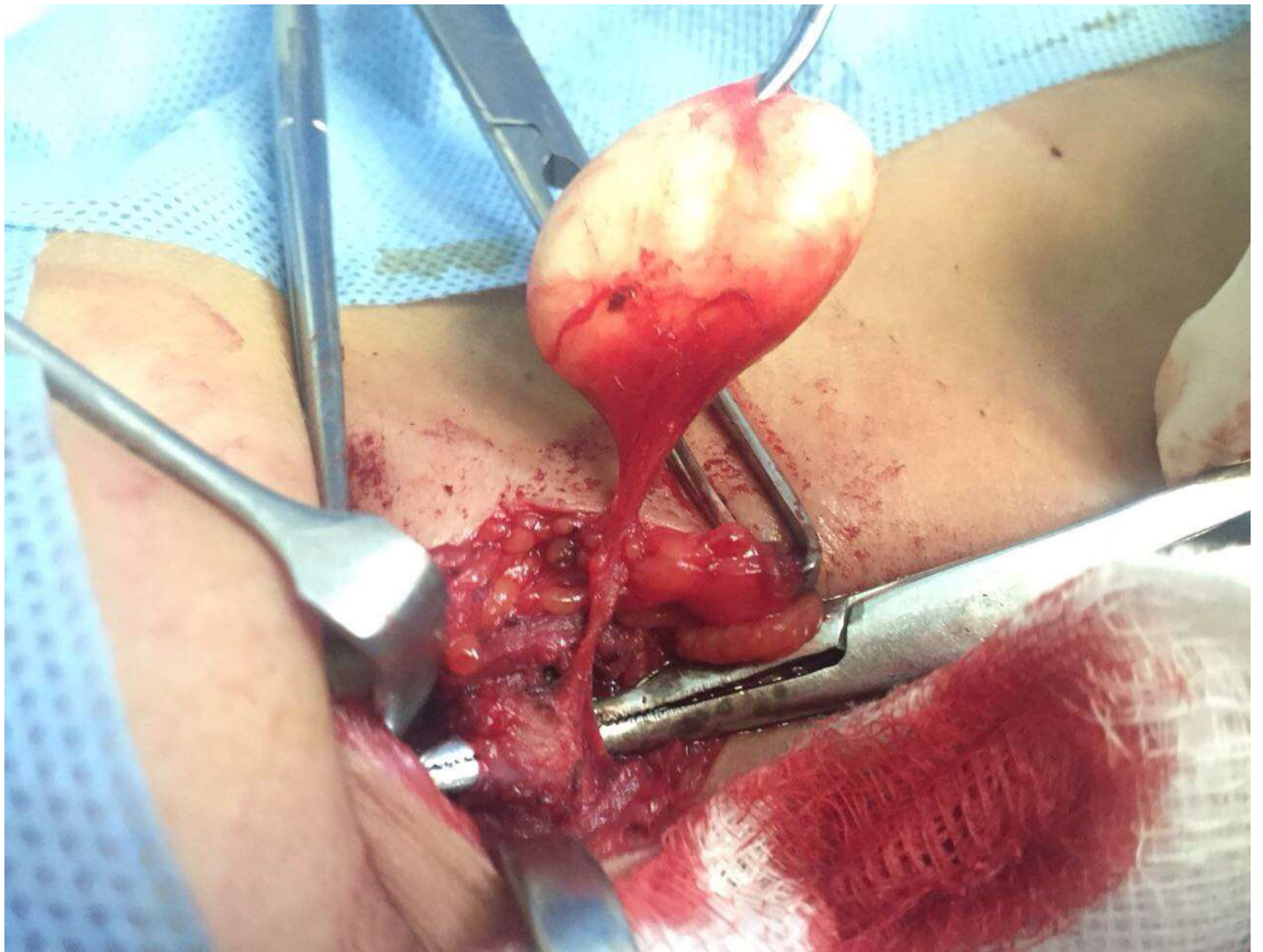
Classically, the cyst moves upwards on swallowing and with tongue protrusion, but this can also occur with other midline cysts such as dermoid cysts, as it merely indicates attachment to the hyoid bone.

**Treatment** is surgery Sistrunk operation

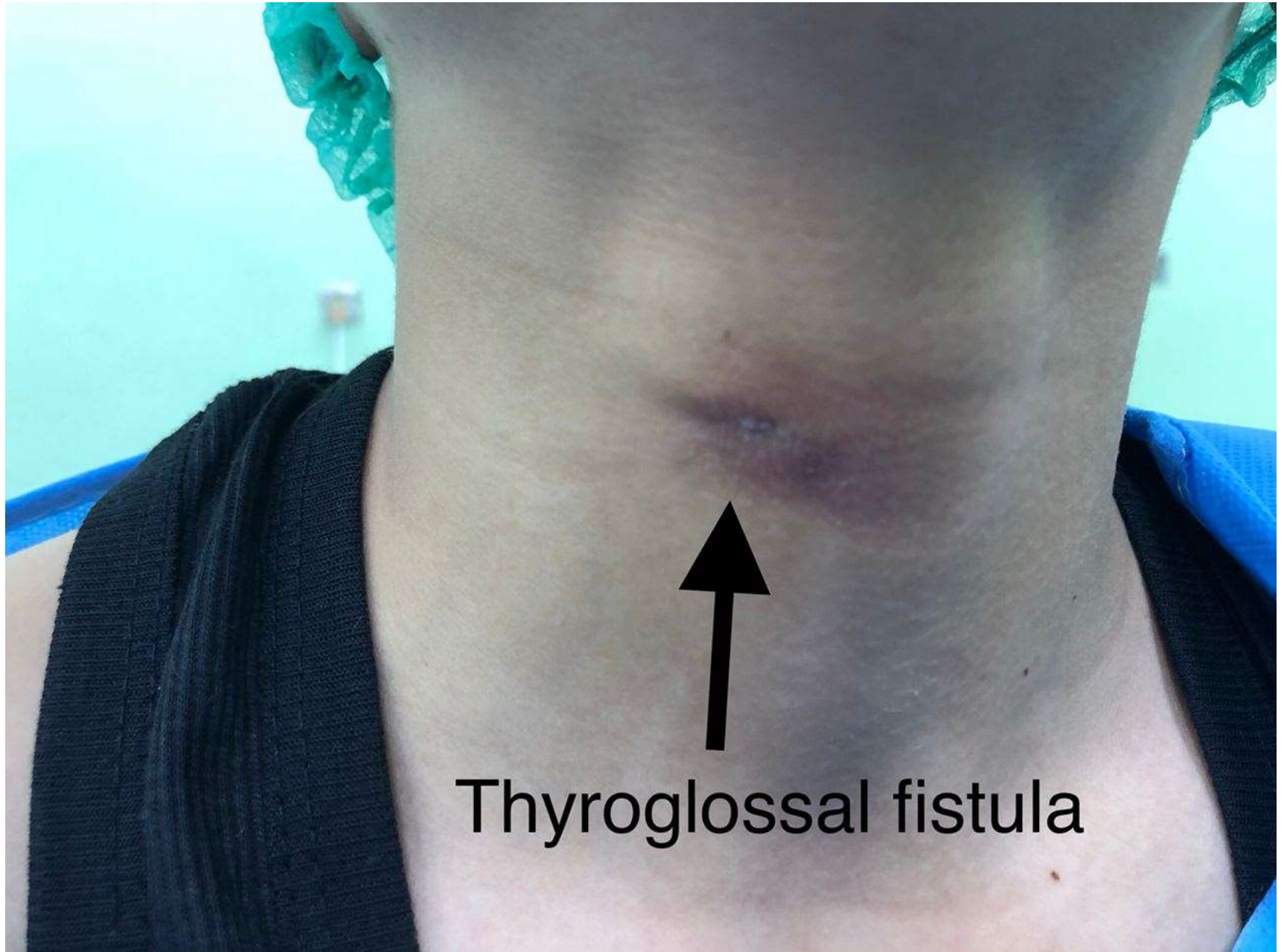
**Thyroglossal fistula is never congenital**





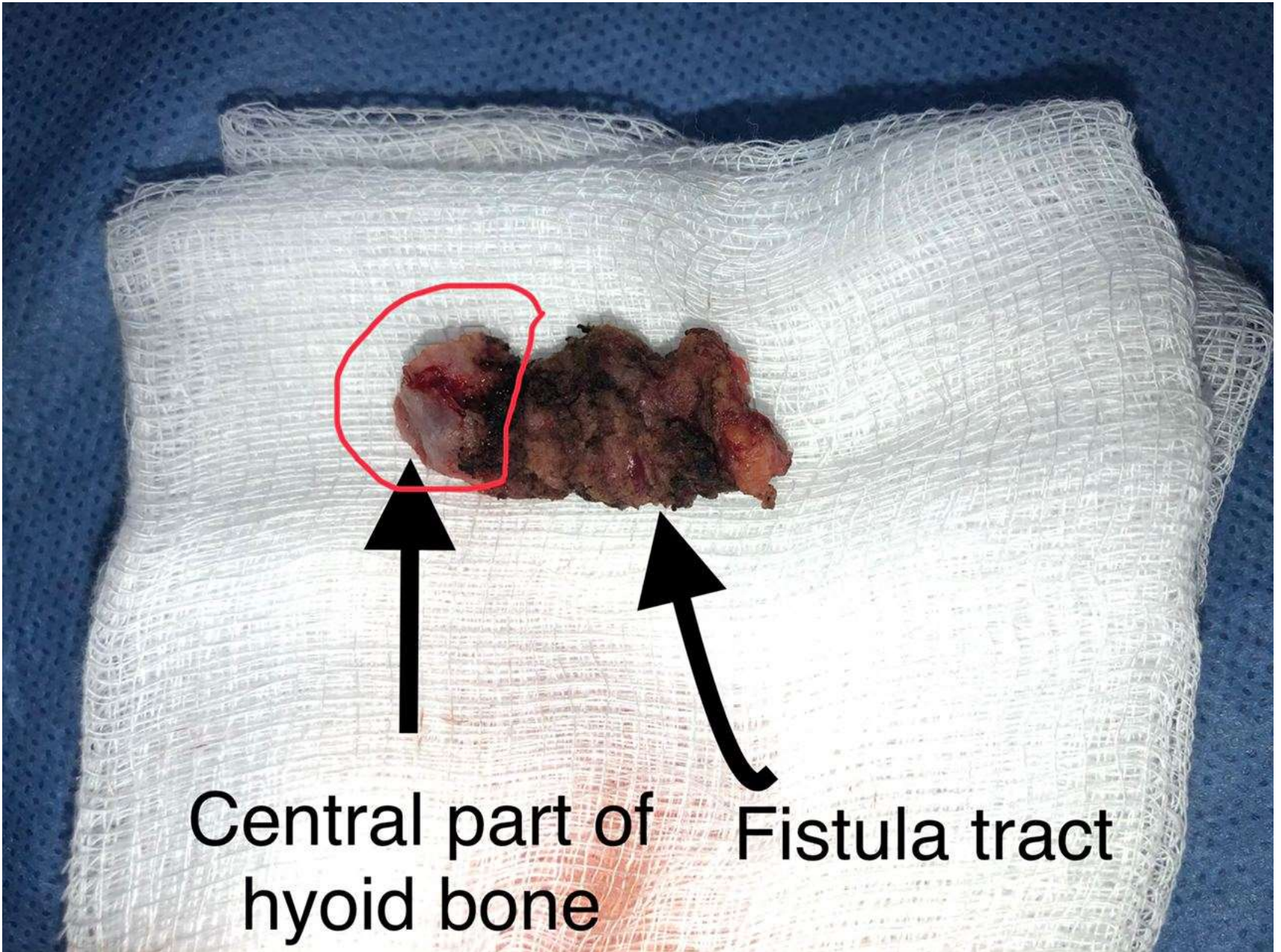






Thyroglossal fistula





Central part of  
hyoid bone

Fistula tract

*Thank you*