

## Case 104 A lump in the neck that moves on swallowing



Figure 104.1

A hairdresser aged 29 years noticed a lump in her neck 3 months before being seen in the outpatient clinic. It was quite painless and not tender, but both she and her friends noticed that it 'bobbed up and down' when she swallowed. It seemed to her that it was getting bigger and she was worried about its appearance. Apart from this, she was perfectly well.

On examination, she was a healthy young woman, although rather overweight. There was a lump just to the right of the midline to the lamina of the thyroid cartilage, which moved upwards on swallowing. Figure 104.1 shows a side view of her neck, with her mouth open (a), and what happened when she was asked to put out her tongue (b).

### The lump in this woman's neck (arrowed) moves on swallowing. What does this imply, and why?

In clinical practice, the only lumps you will see that move on swallowing have something to do with the thyroid

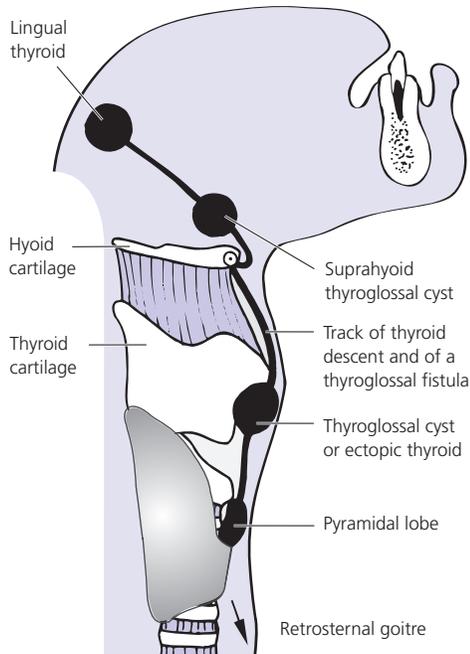
gland. The gland is attached to the sides of the larynx and the larynx moves upwards on swallowing.

### This lump also moves upwards when she protrudes her tongue. What is the undoubted diagnosis here?

She has a thyroglossal cyst.

### What is the embryological explanation of this lesion and of its physical signs?

The thyroid gland develops as a diverticulum of the tongue at the junction of its anterior two-thirds and posterior one-third. This leaves a pit, the foramen caecum, which can be seen on the dorsum of the back of the tongue. This diverticulum descends along the front of the neck, passes in close relationship to the body of the hyoid bone, and takes up its definitive position on either side of the larynx and trachea, with its isthmus crossing the front of the trachea. The thyroglossal cyst develops in the



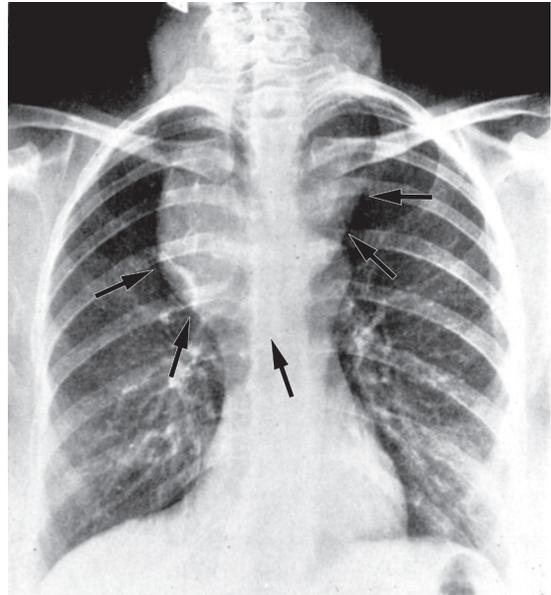
**Figure 104.2** The descent of the thyroid, showing possible sites of ectopic thyroid tissue or thyroglossal cysts, and also the course of a thyroglossal fistula. The arrow shows the further descent of the thyroid that may take place retrosternally into the superior mediastinum.

remnants of this thyroglossal track and retains its attachment to the base of the tongue, so that it moves upwards when the tongue is protruded. It also moves upwards on swallowing because of its attachment to the larynx.

### What other congenital anomalies, apart from thyroglossal cysts, may result from this embryological process?

These are shown in Fig. 104.2:

- *Lingual thyroid*: All or, more usually, a part of the gland persists at the tongue base.
- *Thyroglossal fistula*: This may result if the cyst becomes infected and ruptures, or if incomplete excision of the tract is performed.
- *Pyramidal lobe*: This is a common finding, attached to the isthmus of the thyroid gland.
- *Retrosternal thyroid*: The thyroid descends beyond its station into the superior mediastinum. Indeed, this is the commonest cause of a superior mediastinal mass, and an example is shown in Fig. 104.3.



**Figure 104.3** Retrosternal thyroid (arrowed) shown on a chest X-ray.

### How might this woman's thyroglossal cyst be treated?

A radioactive thyroid scan was performed to ensure the presence of normal thyroid tissue in the correct place. Following this, the neck was explored through a transverse skin crease (Kocher\*) incision. The cyst was excised together with the track, which led upwards behind the cyst and was in intimate contact with the back of the body of the hyoid bone, the central piece of which was also excised; the track was removed up to the base of the tongue. Inferiorly, the cyst was attached to a pyramidal lobe, which was also resected. It is important to remove the whole of the track as well as the cyst in order to prevent the development of a thyroglossal fistula from the duct remnant. The excised specimen is shown in Fig. 104.4.

The patient made a smooth recovery from her operation.

\*Theodor Kocher (1841–1917), Professor of surgery, Berne. He was the first of the seven surgeons to have gained the Nobel Prize.

Part 2: Cases

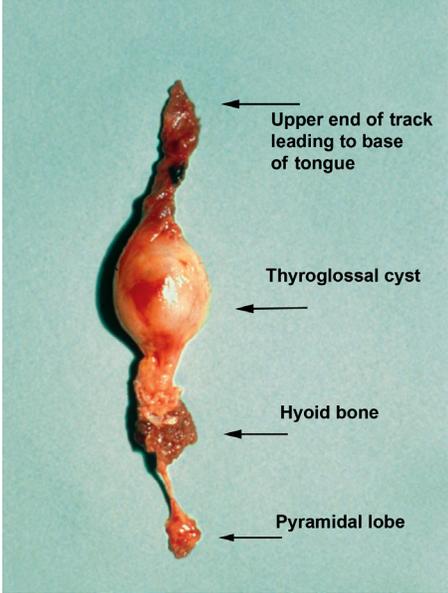


Figure 104.4 Thyroglossal cyst.