Medial cervical tumefaction in adults: What diagnosis?

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Clinical history

Ms S, aged 56 years, was referred by her family doctor for upper anterior-medial cervical tumefaction of recent onset, discovered on self-palpation and confirmed on cervical ultrasound.

History included childhood tonsillectomy, cholecystectomy for vesicular lithiasis, hypercholesterolemia and arterial hypertension treated by enalapril.

There was no history of smoking or alcohol abuse.

On interview, the patient reported slight discomfort on swallowing, particularly for liquids.

Clinical examination at consultation found no cervical tumefaction or adenopathy; flexible endoscopy examination was normal.

Cervical ultrasound scan found an isolated medial basilarlingual cyst of about 2 cm without other cervical abnormality.

Contrast-enhanced cervical CT provided the following two images (Figs. 1–2).

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Figure 1 Contrast-enhanced cervical CT, axial slice.
Questions

Question 1: What is your diagnosis?
Question 2: Would you prescribe complementary examinations?
Question 3: What will your treatment strategy be?

What is your diagnosis?

Figure 2 Contrast-enhanced cervical CT, sagittal slice.
Replies

Reply 1

What is your diagnosis?
The most likely hypothesis is thyroglossal duct cyst.

The main differential diagnosis would be ectopic thyroid, the thyroid not being visible on the CT slices presented here.

Also to be considered would be the dermoid cyst, also found in children and young adults, usually at a medial location but often forward of and above the hyoid bone, and vallecular cyst (a duct cyst situated basilingually), although this is unlikely in the present case, as the location is too inferior with respect to the hyoid bone [1].

Theoretically, a medial cervical cystic mass could also suggest a tumor of thyroid origin, which may exhibit a cystic aspect, or else adenopathy of dental origin.

Reply 2

Would you prescribe complementary examinations?

No, as long as the examinations already performed confirm the presence of a normally positioned thyroid body.

Ultrasound, being accessible and non-irradiating, would be the examination of choice: it confirms diagnosis and determines the cystic nature of the mass, which is usually hypoechogenic but with contents that may fluctuate with episodes of infection. This could explain why, in the present case, the cyst was not palpable at the time of consultation despite the patient having been able to palpate it herself. Ultrasound can determine the lesion site: most cysts (65%) are situated below the hyoid bone, 15% at the level of the hyoid bone, and 20% above; those situated below may be slightly off the midline. Finally, ultrasound can check the presence of the thyroid body.

Ultrasound could be complemented by CT/MRI, to determine extension at the root of the tongue, especially in an adult, where clinical diagnosis is more difficult. Exceptionally, thyroid scintigraphy could be prescribed, to explore for an ectopic thyroid.

Reply 3

What will your treatment strategy be?
The most probable diagnosis is of thyroglossal duct cyst, with a normally located thyroid. Histology needs confirming. Treatment should therefore be surgical, remote from the infection, by exploratory cervicotomy on Sistrunk’s reference procedure (Fig. 3).

Commentary

The thyroglossal duct cyst is the most frequent embryologic malformation of the neck, affecting 7% of the general population. It results from abnormal persistence of the thyroglossal canal, originating in the branchial system which begins to form as of the third week of development. At this stage, the mesoblast thickens and forms five arcs known...
as branchials, the anterior parts of which fuse together along with the mentosternal space to form the medial and anterior neck. The mesoblast includes the endoblast which develops into the upper airways among other structures. The thyroglossal canal is formed by invagination within a thickening of the endoblast, progressing between the first and second arcs up to the primitive aorta. It passes behind the future mandible and forward of the hyoid bone body. At the tracheal level, the canal becomes bilobal, forming the thyroid (Fig. 4). At around 8–10 weeks of fetal development, the canal becomes involuted, forming the thyroglossal duct. During its growth, the hyoid bone lies against the duct, inducing a loop behind the bone, with strong perioskeletal adherence. Normally, the duct disappears, leaving only the foramen caecum (the tip of the V of the tongue) [4]. Persistence of part of the duct may result in a cyst along this trajectory. The underlying cytogenetic abnormalities remain unknown. In view of the existence of familial forms, some authors suggest a dominant autosomal origin with incomplete penetrance. Observed female predominance has suggested genetic imprinting, although this hypothesis is controversial [5].

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

References