A CASE STUDY

Parapharyngeal Ectopic Thyroid: A Clinical Case Report

Tiroides ectópico parafaríngeo. A propósito de un caso

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A 51-year-old woman presented with dysphagia, nocturnal dyspnoea, right-sided infra-auricular pain, and a feeling of an oropharyngeal lump of several months' duration. A mass covered by pharyngeal mucosa was seen on examination of the pharynx, at the level of the right tonsil, which crossed the midline, and extended from the epipharynx to the right hypopharynx. No cervical lymph adenopathies were felt. A computed tomography (CT) scan was performed with contrast (Fig. 1A) which revealed the presence of a mass in the right parapharyngeal space which crossed the midline; the greatest longitudinal axis was 67 mm, transversal 67 mm, and anteroposterior 31 mm, there were scattered calcifications and it was very vascularised, and there were no suspicious lymph adenopathies. The core needle biopsy laboratory reported connective and lymphoreticular tissue, skeletal muscle, and no malignancy data. An angio-CT scan confirmed the presence of a hypervascular parapharyngeal mass, apparently dependent on the external carotid artery which was externally displacing the vessels of the carotid space (Fig. 1B).

It was decided, given the hypervascularisation of the mass, to embolise and remove the tumour intraorally beforehand, with control of the cervical vascular bundle, prior to an external approach. The histopathological findings were compatible with those of thyroid tissue (Fig. 2). The postoperative thyroid function study showed TSH levels of 4.48 μU/ml (0.5–4.94), free T4 levels of 1.17 ng (0.7–1.8), and free T3 levels of 2.29 pg/ml (1.71–3.71). Thyroid gammography showed the presence of a thyroid gland in the normal anatomical position, with no thyroid tissue remnants at oropharyngeal level.

The patient was discharged after an uneventful postoperative period, for periodic revision.

Discussion

Ectopic thyroid tissue is a rare pathology, which consists of the presence of thyroid tissue outside its normal anatomical position. It occurs as a consequence of the faulty migration of the gland from its origin, the foramen caecum, to its final pretracheal position.1 Its prevalence is approximately 1 in 100,000–300,000 people, and its real incidence is unknown, as the majority are asymptomatic and are usually discovered by accident.3 The most common location is lingual (80%–90% of cases), those which are found at the level of the suprathyroid and infrahyoid thyroglossal duct are less common (5%) as are those found along the aerodigestive tract, as in our case (tonsil/oropharyngeal, retropharyngeal, tracheal, oesophageal; 1%).2,4 Seventy-five percent of cases do not present with a thyroid gland in the normal anatomical position, and the aberrant tissue becomes the single source of the hormone. In the remaining cases where the thyroid gland is normal, the gland is usually underactive.4

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Figure 1  (A) Cervical CT scan showed a mass in the right parapharyngeal space of $67 \times 67 \times 31$ mm, hypervascularised, and with no suspicious adenopathies. (B) Cervical angio-CT showed a hypervascular parapharyngeal tumour irrigated apparently and exclusively by branches of the external carotid artery.

Figure 2  Histopathological analysis showed the presence of thyroid tissue destructured by wide fibrous bands and abundant chronic inflammatory infiltration.

It is therefore important in the presence of ectopic thyroid tissue to conduct a complete study, as this will govern future treatment.

The study protocol should include CT scan, gammagrapy with Tc$^{99m}$ or $\text{I}^{-131}$, thyroid function tests, and fine needle aspiration biopsy. The latter is the most precise diagnostic test, although the practitioner needs to be very experienced. If cervical gammagrapy shows that the ectopic tissue is the only functioning thyroid tissue, the way the mass is managed may depend on the patient’s symptoms. If the patient has no symptoms and there are no malignancy criteria, surgery should always be avoided. Otherwise, the mass should be resected and the patient started on hormone replacement therapy.

In our patient, the thyroid mass was found in the parapharyngeal space; her gland was in the normal anatomical position and her thyroid function was also normal. Due to the site of the mass, the possibility of ectopic thyroid tissue was not considered as a differential diagnosis.

The parapharyngeal space is a virtual anatomical region, in the form of an inverted triangular pyramid which extends from the base of the skull to the hyoid bone. It is delimited medially by the buccopharyngeal fascia, laterally by the fascia of the medial pterygoid muscle, ascending mandibular branch, and deep parotid lobe, and, posteriorly, by the aponeurosis of the posterior face of the carotid vein and prevertebral fascia. The styloid diaphragm divides the parapharyngeal space into 2 regions, the prestyloid space, which essentially contains fat and lymphatic nodes, and the retrostyloid or neurovascular space, which contains the internal carotid artery, the internal jugular vein, 9th to 12th cranial nerve, and the sympathetic cervical chain.

Adenoma pleoforme was proposed as an initial diagnostic option; this is the most common tumour of the parapharyngeal space. Although there have been very few reported cases of ectopic thyroids, they should be considered in their various locations as a differential diagnosis for pharyngeal masses.

Conflict of Interest

The authors have no conflict of interests to declare.

References