

Case Report

THYROID GLAND WITH A SEPARATE LEFT LOBE

Aymelek Yalın, Ph.D. / Jasna Gürbüz, M.D. / Mehtap Yüksel, Ph.D.

Department of Anatomy, School of Medicine, Marmara University, Istanbul, Turkey.

ABSTRACT

During routine dissection of a 50 year-old male cadaver, we encountered a developmental anomaly of the thyroid gland having a left lobe connected to the isthmus by the thyroid fascia. Glandular tissue was not observed within the fascial connection. Right and left lobes were asymmetric, with heights of 83 mm and 52 mm, respectively. The gland was supplied by superior and inferior thyroid arteries, while the isthmus was supplied by branches of the right superior and inferior thyroid arteries. The thyroidea ima artery was not observed.

Key Words: Thyroid gland, isthmus, variation

INTRODUCTION

The thyroid gland is the first endocrine gland appearing in about the third week of embryonic development. It begins to develop from median endodermal thickening, about 24 days after fertilization. This thickening is known as the thyroid diverticulum (1,2). During embryologic development, the thyroid gland descends in the neck connected to the tongue by the thyroglossal duct (3). By the seventh week, the thyroid gland usually reaches its final site in the neck and the thyroglossal duct normally degenerates and disappears (1,2).

Normally the developed thyroid gland is enclosed by the pretracheal layer of the deep cervical fascia of the neck and has right and left lobes connected by a narrow, median isthmus (4).

CASE REPORT

During routine dissection of a 50 year-old male cadaver an anomalous thyroid gland was

encountered. The thyroid gland was normally positioned between the fifth cervical and first thoracic vertebrae. Right and left lobes were asymmetric with heights of 83 mm and 52 mm, respectively.

The pretracheal layer of the deep cervical fascia enclosed the thyroid gland forming the thyroid fascia. The thyroid fascia was the only connection between the left lobe and the isthmus (Fig. 1).

The gland was supplied by superior and inferior thyroid arteries. The isthmus was supplied by the branches of the right superior and inferior thyroid arteries. The Thyroidea ima artery was not observed.

DISCUSSION

Although congenital functional defects of the thyroid gland (cretinism) are of great importance (5), congenital morphological anomalies are not insignificant.

Defects at the early period of morphogenesis lead to morphological anomalies which are relatively common and occur more frequently in females and on the left side (6-9).

In the current case, we came across the defect on the left side of the gland of a male cadaver. The left lobe was connected to the isthmus only by a fascia. The discontinuation of the glandular tissue between the isthmus and the left lobe could be misleading for a surgeon, suggesting a left lobe agenesis. Furthermore, the medial border of the left lobe could be misdiagnosed as a pathological mass (10).

In unclear cases, the scintigram would be valuable for definitive diagnosis (7) to avoid an unnecessary surgical approach (6).

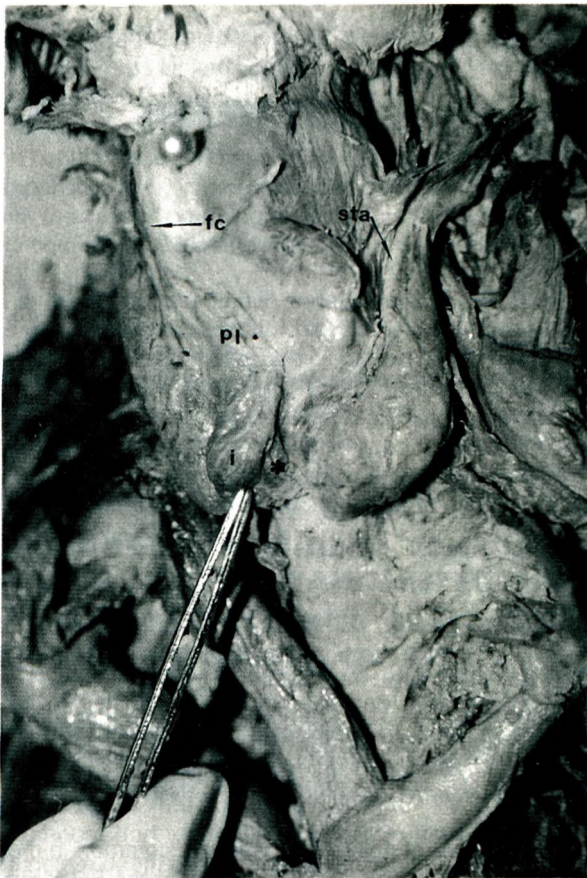


Fig. 1.: Photograph of the present case.

i: isthmus, pl: pyramidal lobe, fc: fibrous cord, sta: superior thyroid artery, *: the gap between the isthmus and the left lobe

The normal thyroid gland is almost always asymmetric and the right lobe may be twice as large as the left (10). In our case the right and left lobes are observed to be 83 mm and 52 mm in height, respectively.

The pyramidal lobe represents a persistent portion of the inferior end of the thyroglossal duct (10). In this case, it was seen as a small prominence over the superior border of the isthmus and it was connected to the right part of the hyoid bone by a tiny fibrous cord.

Hitherto, different abnormalities of the thyroid gland were reported, such as the ectopic gland (11-13) hemiagenesis or agenesis and thyroid associated anomalies (14-16,8).

In the current case the thyroid gland could be classified as a normally positioned asymmetric gland with a separate left lobe.

Sonography and computed tomographic scanning may be useful in distinguishing between developmental variations of the thyroid lobes and pathologic conditions (15).

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