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Original Research Article

Morphological and Morphometric Variations of Thyroid - Gland in Female Population Using USG

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Abstract

Vast number of the females in this part of the population suffers from the thyroid illness and majority of them comes to the hospital after suffering from the same illness for a long time. They will not know before the parameters of the blood are out of proportions. This study puts in an effort to find the base proportions of the USG gland in normal female patients and tries to establish a normal paremeters of the thyroid gland. Many cadaver based study are there but not even a single female dedicated USG based morphometric analysis is not found in the open access journals.

Keywords: Morphology, Morphometry, Thyroid Gland.

INTRODUCTION

Vast number of the females in this part of the population suffers from the thyroid illness and majority of them comes to the hospital after suffering from the same illness for a long time [1, 2]. They will not know before the parameters of the blood are out of proportions. This study puts in an effort to find the base proportions of the USG gland in normal female patients and tries to establish a normal paremeters of the thyroid gland. Many cadaver based study are there but ot even a single female dedicated USG based morphometric analysis is not found in the open access journals.

Women are more susceptible when compared to that of men to have thyroid disease. Roughly ten percent of women will develop thyroid problems during her lifetime.[1] In women, thyroid diseases can cause, problems with your menstrual period as it controls other important sexual hormones. Also thyroid helps control the menstrual cycle in women [3-5]. Too much or too little thyroid hormone can make your periods very light, heavy, or irregular as discusse earlier can be directly or indirectly related as global involvement of pituitary. In severe cases can also cause amenorrhea. One of the major cause of the early menopause is said to be caused by the same. It can also cause sterility and also is known to be a causative factor for miscarriage [6-8]. This study puts in an effort to find the base proportions of the USG gland in normal female patients and tries to establish a normal paremeters of the thyroid gland.

AIMS AND OBJECTIVES

To study the morphological and morphometric variations of thyroid gland using USG in thirty normal females.

MATERIALS AND METHODS

This descriptive study was done on 30 adult females using USG in Srinivas Institute of Medical Sciences, Mangalore.

Observed morphological parameters are presence of pyramidal lobe, levator glandulae thyroidea and absence of isthmus.

Morphometric parameters are length, width and thickness of lateral lobes. Measurements were taken using a digital vernier calipers.

RESULTS

Out of 30 subjects Pyramidal Lobe (PL) was found in 2 subjects.

Levator Glandulae Thyroidea (LGT) was found in one patient.

The isthmus was absent in 1 patient.

Table-1: Morphometric analysis of lobes of thyroid gland in present study

Sl. No	Variables	Side	Mean ± SD
1.	Length of lateral lobes	Right Left	45.13±4.64 45.18±4.82
2.	Width of lateral lobes	Right Left	15.04±2.54 14.98±2.78
3.	Thickness of lateral lobes	Right Left	7.98±2.09 8.17±1.19
4.	Isthmus length Width	------	 13.57±3.5 14.11±2.67

DISCUSSION

The morphological features of thyroid gland found in present study compared with other studies.

A study done by Joshi *et al*., [3], reported that pyramidal lobe (PL) was present in 34 (37.77%) cases of total 90 male cadavers, while the levator glandulae thyroidea (LGT) was present in 27 (30%) cases and the isthmus was absent in 15 (16.66%) cases.

Dixit *et al.*, [2] dissected 41 cadavers to study the morphometricfeatures of the thyroid lobes and isthmus and also to note the variations in neuro vascular relations.

The average length of the right lobe of thyroid gland was 5.29 cm and that of the left lobe was 4.95 cm. The average height of the isthmus was 2.25 cm. The pyramidal lobe and levator thyroidae glandulae were both present in 3 cases (7.3%).

Ranade *et al*., [5] dissected 105 cadavers (88 male & 17 female) to observe morphological features like pyramidal lobe, levator glandulae thyroidea, absence of isthmus and presence of accessory thyroid tissue.The pyramidal lobe was present in 61 (58%) male cadavers, and 52 (49.5%) cadavers showed the presence of the levator glandulae thyroidae. 33% of the specimens studied showed agenesis of the isthmus.

Kulkarni *et al*., [4] observed morphological features in 20 cadavers and found levator glandulae thyroidae was present in 25% of specimens and 10% of specimens had agenesis of isthmus of thyroid gland.

Kumar et al., [9] dissected 60 cadavers to observe the morphological, morphometric and variations of superior thyroid artery. Isthmus was absent in 5 (8.3%) of cases, pyramidal lobe was present in 8 (13.3%) of cases and levator glandulae thyroidae was in 3 (5%) of cases.

CONCLUSION

This study puts in a base line for the morphometric analysis of the thyroid gland based upon USG in this population.

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