Research Article

Role of Elastography in Evaluation of Thyroid lesions Submitted for Partial Fulfillment of Master degree In Diagnostic

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Abstract
Introduction : Elastography is a new imaging modality that maps the elastic properties of soft tissue(1). The main idea is that whether the tissue is hard or soft will reflect a diagnostic information about the presence or status of disease. For example, tumors will often be harder than the surrounding tissue.(2). Elasticity is the tendency of a tissue to resume the original size and shape; while strain is the level of change in size or shape in response to external compression (stress)(3) **Aim of the work:** The aim of this study is to assess the role of Ultrasoud Elastography in evaluation of thyroid nodules**. Anatomy of the thyroid gland:** The thyroid gland is placed anterior in the lower neck at the level of 5th cervical to 1st thoracic vertebrae. It consists of 2 lateral lobes interconnected in front of the second, third and fourth tracheal rings by narrow median isthmus(19)**. Patients and methods:** The objective of this study is to assess the diagnostic accuracy of US elastography in evaluation of thyroid nodules using the cytological & histopathologic analysis as the reference standard.
Key words : US Elastography, thyroid nodules, Multinodular goiter, elasticity score**.**

Introduction
Elastography is a new imaging modality that maps the elastic properties of soft tissue(1).

The main idea is that whether the tissue is hard or soft will reflect a diagnostic information about the presence or status of disease. For example, tumors will often be harder than the surrounding tissue.(2).

Elasticity is the tendency of a tissue to resume the original size and shape; while strain is the level of change in size or shape in response to external compression (stress)(3)

Elastography provides information about the stiffness in a particular tissue similar to what palpation of a lesion would do. Most malignant tumors have abnormally firm stroma because of the presence of collagen and myofibroblasts.(6).

In Real Time Elastography, compression is applied to the area with a probe, and strain characteristics, which is formed as a response to the applied force, are coded on gray scale images. In general, stiff tissues are coded as blue, soft tissues are red and tissues with average stiffness are coded as green(7).

Thyroid nodules are reported to be found in 33% of unselected adults between the age of 18 and 65 years and in 50% of the population of over 65 years of age(15). Although the majority of the thyroid nodules are benign, malignancy has a prevalence of 5%–15%(16).

Aim of the work
The aim of this study is to assess the role of Ultrasoud Elastography in evaluation of thyroid nodules.

Review of Literature
The thyroid gland is placed anterior in the lower neck at the level of 5th cervical to 1st thoracic vertebrae. It consists of 2 lateral lobes interconnected in front of the second, third and fourth tracheal rings by narrow median isthmus(19)**.**

Anatomy of the thyroid gland

The thyroid gland is placed anterior in the lower neck at the level of 5th cervical to 1st thoracic vertebrae **.** It consists of 2 lateral lobes interconnected in front of the second, third and fourth tracheal rings by narrow median isthmus[19]**.**

Patients and methods

The objective of this study is to assess the diagnostic accuracy of US elastography in evaluation of thyroid nodules using the cytological & histopathologic analysis as the reference standard.

Results	Range		Mean	Std. Deviation
	Minimum	Maximum		
Age	9.00	80.00	36.2000	16.11341
Weight	17	95.00	69.20	19.96
Height in meter	1	1.80	1.59	.17
BMI	10.06	32.42	26.56	4.89
SBP	100	150	118	11.05
DBP	70	90	77	6.56

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