

Dedication

To my parents

My wife

My

children

My

teachers

And friends

For giving me never-ending gifts of encouragement, love and patience

Acknowledgement

I would like to thank every one who assisted me by one way or another to bring this study to light.

I am grateful to my supervisor Dr. Khalid .H.EL TOM, for his valuable and continuous help and guidance. My thanks are extended also to colleagues in Radiation Isotopes Centre of Khartoum (RICK), colleagues in U/S department in College of Medical Radiologic Siences and all staff of the College Library.

Abbreviation

ECAT	Emission Computerized Axial Tomography
U/S	Ultrasound
NM	Nuclear Medicine
RIA	Radio Immuno Assay
TBG	Thyroxin Binding Hormone
TSH	Thyroxin Stimulating hormone
MBQ	Mega Bequerel
IV	Intravenous
FNA biopsy	Fine Needle Aspiration
MTC	Medullary Thyroid Cancer
ACTH	Adrenal Corticotrophic hormone
MEN2	Multiple Endocrine Neoplasia
FSH	Follicle stimulating hormone
LH	Lutinizing hormone
GH	Growth hormone
PRL	Prolactin
HPL	Human placental lactogen
TRH	Thyrotrophin releasing hormone
RICK	Radiation and Isotopes Center of Khartoum
CT	Computerized tomography

MRI	Magnetic Resonance Imaging
T3	Triiodothyronine
T4	Thyroxin
SSN	Suprasternalnotch
N G	Nodular Goiter
M NG	Multi Nodular Goiter
AMP	Adenosin Mono Phosphate
SONAR	Sound Navigation and Ranging

Abstract

In this study the researcher assessed the effectiveness of ultra sound and nuclear medicine images in the diagnosis of thyroid enlargement and compared between the two imaging modalities (nuclear medicine and ultra sound) ,when they are applied for the same case.

This study was conducted at RICK, nuclear medicine department, ultra sound departments, surgery departments in Khartoum State Hospitals , and ultra sound department in College of Medical Radiologic Science.

Random sample of fifty patients, males and females with different ages and symptoms were chosen, ultra sound and nuclear medicine images were done to demonstrate thyroid goiter.

Some of these cases, had the same diagnosis by the two image modalities while the majority of these diagnosed only by nuclear medicine.

Ultra sound imaging has a role in the diagnosis of thyroid goiter but nuclear medicine scanning is better and more sensitive.

It can be said that the two imaging modalities when performed together can help to obtain and demonstrate any anatomical variation and pathological changes.

الخلاصة

في هذه الدراسة تم قياس فعالية الموجت فوق الصوتية والطب النووي في تشخيص تضخم الغدة الدرقية والمقارنة بين الفحصين عند إجرائهما معا (الموجت الصوتية والطب النووي).
أجريت هذه الدراسة في قسم الطب النووي بمركز العلاج بالأشعة والطب النووي - الخرطوم ,
وعيدلت الموجت فوق الصوتية وقسم الموجت فوق الصوتية بكلية علوم الأشعة الطبية وأقسام الجراحة
بمستشفيات ولاية الخرطوم .

أخفت عينة عشوائية من المرضى (نساء ورجال) تتكون من خمسين مريضا من مختلف
الأعمار والأعراض , خضع كل المرضى لإجراء الفحصين (الموجت فوق الصوتية والطب النووي) لتوضيح
التشخيص الدقيق لتضخم الغدة الدرقية .

تم تشخيص بعض الحالات بوساطة الموجت فوق الصوتية ولكن أغلبية الحالات إعتمد
تشخيصها علي استخدام تقنية الطب النووي بالرغم من أن الموجت فوق الصوتية ما زالت تلعب دورا في
تشخيص تضخم الغدة الدرقية .

ومن هنا يمكن القول أنه يمكن تشخيص تضخم الغدة الدرقية بإجراء الفحصين مع بعضهما البعض
صورة لاسيسية للحصول علي التشخيص الدقيق لإظهار التغيرات التشريحية والمرضية .

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