بسم الله الرحمن الرحيم

قال تعالى :(وما اوتيتم من العلم الا قليلا)

صدق الله العظيم

Dedication:

To my mother and father whom made me the persons I am, with love

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I would like to send out my greatest thanks to:

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Abstract:

The main objective of the present work was to study the relationship between thyroid function test and thyroid uptake using ^{99m}Tc. The study was also designed to help in determining the normal range of the thyroid uptake in Sudanese people as well as the possibility of using thyroid uptake with accuracy similar to the TFT. This study includes 77 patients in different age, sex, center of origin and type of food and drink intake. The study was conducted at RICK; nuclear medicine department (gamma camera and RIA) for five months From MAY to SEP 2009. the levels of thyroid hormones T4, T3, TSH and thyroid uptake are (5.6±3.6, 79.8±6.5, 6.7±0.8 and 6.3±2.4 respectively), in the subject's blood were measured using sensitive RIA method against the thyroid uptake value in the gamma camera (mediso).the result of this study showed that, there was a direct relationship between thyroid uptake and the level of the thyroid related hormones (for individual). There is strong and significant correlation at p = 0.05 between the thyroid uptake versus T3 and T4.The percentage of thyroid uptake for the subjects included in the study was ranging between 5.78 and 6.12. Also the study indicated that there were possibilities of using thyroid uptake only as a diagnostic tool for thyroid activity without TFT due to the ability of thyroid uptake to giving sufficient information concerning thyroid status.

الخلاصة

أهم أهداف هذا البحث هو دراسة التباين فى العلاقة بين فحص وظائف الغدة الدرقية ومسح تشبع الغدة بأستخدام عنصر التكنيشيوم المشع،صمم هذا البحث أيضاً لحساب المعدل الطبيعى لتشبع الغدة الدرقية بعنصر التكنيشيوم عند السودانين بالأضافة لذلك يهدف البحث لمعرفة هل مسح تشبع الغدة الدرقية يمكن ان يغنى عن أستخدام فحص الهرمونات الروتينى فى المعمل، شملت هذة الدراسة ٧٧مريض بمختلف الأعمار والاجناس والولايات بالأضافة لأختلاف طبيعة الطعام والشراب عند هؤلاء المرضى . أجريت هذة الدراسة بالمركز القومى للعلاج بالاشعة والطب النووى الخرطوم،قسم الطب النووى(القاما كاميرا،معمل الهرمونات المشع) لمدة خمسة أشهر من مايو وحتى سبتمبر٢٠٠٩.مستوى هرمونات الغدة الدرقية الثيروكسين،تراى أيودو تايروسين،الهرمون المحفذ للغدة الدرقية ونسبة تشبع الغدة الدرقية كانت(6.7±0.85, 79.8±6.5,.6±3.6 و 6.3±2.4) بالتتالى. يتم سحب 5مل من دم المريض لفحص الهرمونات بأستخدام معمل المناعه الأشعاعيه وتحسب نسبة تشبع الغدة بأستخدام القاما كاميرا(ماركة ميديسو). نتيجة هذة الدراسة أظهرت علاقة طردية بين نتائج الهرمونات فى المعمل ونتائج تشبع الغدة الدرقية بالقاما كامير (للفرد), هنالك علاقه قويه وملحوظه عند $p = 0.05$ بين أمتصاص الغده الدرقيه وهرمونى(التى 3)و(التى 4) المستوى الطبيعى لتشبع الغدة الدرقية للمرضى فى هذة الدراسة كانت بين 5.78و 6.12%وأيضاً أشارت هذة الدراسة لاحتمالية أستخدام فحص تشبع الغدة بالقاما كاميرا لوحدة كطريقة مناسبة وعملية لتشخيص أمراض الغدة الدرقية

لانها تعطى تشخيصاً عن حالة هرمونات المريض أذا كانت منخفضة،عالية او طبيعية.

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List of apprevations:

T4	thyroxin hormone
T3	triiodotyrosin hormone
TSH	thyroid stimulating hormones

TFT	thyroid function test
^{99m} Tc	radioactive technetium
p	probability level
RIA	radioimmunoassay