

بسم الله الرحمن الرحيم

قال تعالى :

≡ لا يكلف الله نفسا الا وسعها لها ما كسبت
وعليها ما اكتسبت ربنا لا تؤاخذنا إن نسينا أو
أخطأنا ربنا ولا تحمل علينا إصرا كما حملته
علي الذين من قبلنا ربنا ولا تحملنا ما لا طاقة
لنا به واعف عنا واغفر لنا وأرحمنا انت مولانا
فأنصرنا علي القوم الكافرين =

صدق الله العظيم

(سوره البقره الايه 286)

Dedication

**To my parents, and
brother.....**

**To my Husband, and
children....**

**To my teachers, and
friends....**

I dedicate this work `

With my love

Acknowledgment

Above all, I thank the almighty God, the architect of my life who has made this to happen, and I ask him to bless me all.

I would never have been able to finish my dissertation alone.

The contribution of many different people, in different ways, have make this possible. I would like to extend my appreciation especially to the following:

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Abstract

Thyroid gland disorders are the most abundant endocrine disorders after diabetes mellitus, and the most common disorders are hypothyroidism, hyperthyroidism and Goiter.

This is a case control study was done in Khartoum State during June- September 2015, to assess the effects of thyroid disorders in CK, ALT and AST activity levels.

Thirty hypothyroidism patients as test group and 30 health subject as control group (age and genders was matched) were enrolled in this study, blood samples were collected from participants and CK, AL T, AST activities were measured in serum samples by using spectrophotometer.

Statistical analysis was done by using SPSS, the results showed a significant elevation in CK, ALT, and AST activities in patient with hypothyroidism when compared with control group (P. Value: 0.00, 0.04, and 0.00 respectively).

The results also showed that the treatment of hypothyroidism returns abnormal activity levels of CK, ALT, AST to normal compared to patients who were not under treatment (P. value: 0.00, 0.012 and 0.007 respectively).

CK activity levels have a significant strong negative correlation with T3 (P. value 0.00, $r = -0.788$) and ALT activity levels have a significant moderate negative correlation with T3 (P. value = 0.024, $r = -0.411$) while AST activity levels has an insignificant negative correlation (P.value = 0.187, $r = -0.248$)

T4 has an insignificant correlation with CK, ALT, and AST activity (P.value = 0.592, $r = -0.102$), (P.value = 0.989, $r = -0.003$), (P.value = 0.614, $r = 0.096$) respectively.

Also TSH has an insignificant correlation with CK, ALT, and AST (P.value= 0.749, $r = -0.61$), (P.value = 0.445, $r = -0.145$), (P.value = 0.547, $r = 0.114$) respectively.

In conclusion: Thyroid disorders specially hypothyroidism affect CK, ALT and AST activity levels, mainly CK which one of the cardiac markers and CK and ALT levels elevated in order to T₃ decreasing.

ملخص الدراسة

امراض الغدة الدرقية من أكثر أمراض الغدد الصماء شيوعا بعد مرض السكري. وأهم أمراضها :

فرط نشاط الغدة الدرقية , خمول الغدة الدرقية , وتضخم الغدة الدرقية.

أجريت هذه الدراسة في ولاية الخرطوم في الفترة ما بين يونيو- سبتمبر 2015 م , لتقييم تأثير

أمراض الغدة الدرقية في بعض الانزيمات وهي: CK, ALT & AST . وقد تضمنت الدراسة

مجموعتين: المجموعة الأولى تضم 30 مريضا بخمول الغدة الدرقية, المجموعة الثانية تضم 30

شخص صحيح للمقارنة. جمعت عينات الدم و تم قياس نشاط الانزيمات CK, ALT & AST بواسطة جهاز spectrophotometer . وأجري التحليل الاحصائي للنتائج باستخدام برنامج SPSS للتحليل الاحصائي.

اوضحت نتائج الدراسة ارتفاع ملحوظ في نشاط الانزيمات CK, ALT & AST مقارنة بالأشخاص الأصحاء (القيمة المعنوية = 0.00 , 0.04 , 0.00) على التوالي. تمت المقارنة بين مرضى خمول الغدة الدرقية الذين يتناولون العلاج مع الذين لايتناولون العلاج وتبين أن العلاج يعيد نشاط الانزيمات الى وضعها الطبيعي CK, ALT & AST القيمة المعنوية (0.00, 0.012, 0.007) على الترتيب.

ايضا, اوضحت النتائج ان نشاط انزيم CK يرتفع بنسبة عالية مع انخفاض مستوى هرمون T_3 (القيمة المعنوية = 0.00 و معامل بيرسون للارتباط = -0.788) وانزيم ALT يرتفع بنسبة متوسطة مع انخفاض مستوى هرمون T_3 (القيمة المعنوية = 0.024 و معامل بيرسون للارتباط = -0.411)

اما انزيم AST فيظهر تغيرعكسي مع تغير مستوى هرمون T_3 ولكنه ليس ذو دلالة احصائية (القيمة المعنوية = 0.187 , معامل بيرسون للارتباط = -0.248) كما تبين أن تأثير هرمونات T_4 & TSH على نشاط CK,ALT & AST ليس له دلالة احصائية .

القيمة المعنوية = 0.592, معامل بيرسون للارتباط = -0.102, (القيمة المعنوية = 0.989,): T4

على الترتيب (P.value = 0.614, r = 0.096), (معامل بيرسون للارتباط = -0.003

القيمة المعنوية = 0.749, معامل بيرسون للارتباط = -0.61, (القيمة المعنوية = 0.445,): TSH:

معامل بيرسون للارتباط = -0.145, و (القيمة المعنوية = 0.547, معامل بيرسون للارتباط =

0.114) على الترتيب

أظهرت النتائج أن أمراض الغدة الدرقية و خاصة خمول الغدة الدرقية له تأثير كبير على

انزيمات CK, ALT & AST و خاصة CK الذي يعتبر أحد علامات أمراض القلب وتناسبه

عكسيا مع مستوى هرمون T_3 .

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level in patients with hyperthyroidism and TSH level.