

Dedication

To my Mother,

Who deserves much love and respect

To my family members,

Abdelrhman Shantair

Kamal Shantair

Nahied Ibrahim Shantair

Ilham Ibrahim Shantair

Who always encourage me when life gets harder

To my friends,

Who became very few

I dedicate this work

Tasniem

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Abstract

A cross-sectional study conducted during the period from February to July 2012, compared serum activities of Aspartate transaminases, Alanine transaminases and Alkaline phosphatase of 60 Sudanese patients with type 2 diabetes mellitus (as a test group) and 40 apparently healthy volunteers (as a control group). Participants in this study were from Military Hospital in Omdrman. Age and gender of test group were matched with the control group. The serum activities of AST, ALT and ALP were measured by using auto analyzer from Cobas Integra 400 plus / Mindary -380.

serum AST and ALT showed insignificant difference, whereas serum ALP was significantly raised in the test group compared to control group .

For the test group ,both serum AST and ALT showed no correlation with the duration of disease, while plasma ALP showed a positive correlation with the duration of diabetes mellitus.

From this study, it is concluded that: in Sudanese patients with type 2 diabetes mellitus the plasma ALP is raised, serum AST and ALT are not affected. In addition, serum AST and ALT showed no correlated with the duration of diabetes mellitus, whereas serum ALP is positively correlated with the duration of diabetes mellitus.

Both serum AST and ALT showed no correlation with the duration of disease, while serum ALP showed a positive correlation with the body mass index of diabetes mellitus.

مستخلص الدراسة

أجريت هذه الدراسة المقطعية خلال الفترة من فبراير إلى ديسمبر 2012م حيث تمت مقارنة نشاط الاسبارتيت ترانسماينيز ، الآلانين ترانسماينيز والألكالين فوسفاتيز عند (60) من المرضى السودانيين المصابين بداء السكر من النوع الثاني مع (40) من المتطوعين الأصحاء غير المصابين بداء السكر (كمجموعة ضابطة) وهناك تطابق بين المجموعتين في العمر .

كل المشاركين في هذه الدراسة كانوا من المستشفى العسكري في امدمان وكان هناك ارتفاع ملحوظ ونو دلالة احصائية معنوية قى مستوى الالكالين فوسفاتيز حيث كان الاحتمال الاحصائي اقل من 0.05 فى كل مستويات الوسيطه للالكالين فوسفاتيز، ولم يكن هناك أي تغيير ملحوظ في مستويات الاسبارتيت الآلانين ترانسماينيز وذلك عند مقارنة نشاط الوسطى عند المرضى مقارنة بمجموعة التحكم .

وكانت هناك علاقة وثيقة بين ارتفاع مستوى الألكالين فوسفاتيز ومستوى الاسبارتيت والآلانين ترانسماينيز في بلازما الدم.

مرض السكر من النوع الثاني يؤدي إلى ارتفاع نشاط الألكالين فوسفاتيز وليس له أثر على مستوى الاسبارتيت والآلانين ترانسماينيز في بلازما الدم كما أن مستوى الألكالين فوسفاتيز يرتبط ارتباطاً موجباً مع مدة المرض ولا يوجد ارتباط بين مستوى الاسبارتيت والآلانين ترانسماينيز في بلازما الدم مدة المرض.

مرض السكر من النوع الثاني يؤدي إلى ارتفاع نشاط الألكالين فوسفاتيز وليس له أثر على مستوى الاسبارتيت والآلانين ترانسماينيز في بلازما الدم كما أن مستوى الألكالين فوسفاتيز يرتبط ارتباطاً موجباً مع كتلة الجسم ولا يوجد ارتباط بين مستوى الاسبارتيت والآلانين ترانسماينيز في بلازما الدم كتلة الجسم.

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Abbreviations

| | |
|--------------|--|
| ALP | Alkaline phosphatase |
| ALT | Alanine transaminase |
| AST | Aspartate transaminase |
| DM | Diabetes Mellitus |
| IDDM | Insulin-dependent diabetes mellitus |
| NIDDM | Non-Insulin-dependent diabetes mellitus |