

Dedication

**To my Fiancee
With my
... love**

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List of abbreviations

CHD	Coronary heart disease
CVD	Cardiovascular disease
CRP	C - reactive protein
LDL	Low density lipoprotein
HDL	High density lipoprotein
VLDL	Very low density lipoprotein
IDL	Intermediate density lipoprotein
DM	Diabetes mellitus
IDDM	Insulin-dependent diabetes mellitus
NIDDM	Non-insulin-dependent diabetes mellitus
IHD	Ischemic Heart Disease
CHF	Congestive Heart Failure
RHD	Rheumatic Heart Disease
PVD	Peripheral vascular disease
ESR	Erythrocyte sedimentation rate
A	Absorbance
STD	Standard
SPSS	Statistical Package for Social Science
P	Probability of significance
TIA	Transient Ischemic Attack

Abstract

Diabetes mellitus is a metabolic disorder characterized by hyperglycemia, that can either result from genetic disorders or from defects in insulin .hormone

This study is performed in Khartoum state during the period from January .2011 to May 2011

The aim of the study is to compare the sensitivity of C – reactive protein and cholesterol in detection of early cardiovascular disorders in Sudanese .with type2 diabetes mellitus

Seventy five blood samples were collected from Sudanese diabetic patient with type 2 diabetes mellitus, their age range from 30 – 60 years, and seventy five healthy volunteers as control group for the comparison. Serum cholesterol was estimated enzymatically with spectrophotometer (Biosystem 310), and CRP level was estimated turbidmetrically with .(automation technique (Mindary BS 300

The study observed significant increase in the C-reactive protein level in the study group of type 2 diabetes mellitus when compared with control group (4.56 ± 1.51 mg/L) verses (1.57 ± 0.33 mg/L) respectively, ($P = 0.00$), and the level of CRP is greater in females than in males test group of type 2 diabetes mellitus (5.7 ± 1.58 mg/L) verses (4.1 ± 1.45 mg/L) respectively. Significant maximum elevation of C-reactive protein level was observed during the early period of type 2 diabetes mellitus in group 2(from 1 year to 5 years) (5.2 ± 1.56 mg/L). In contrast, cholesterol level reached the maximum level in group 2 (after 20 years from the onset of type 2 diabetes mellitus). The study observed that there is no significant correlation between CRP level and duration of type 2 .diabetes mellitus in the study group

In conclusion: CRP is higher in test group of type 2 diabetes mellitus than in healthy individuals, reached the peak maximum in the first five

years from the onset of type 2 diabetes mellitus, where as cholesterol level reached the peak maximum after twenty years from the onset of type 2 diabetes mellitus.

مستخلص

مرض السكرى عباره عن اعتلال ابيضى يتميز بارتفاع مستوى السكر فى الدم, والذى يحدث نتيجة لاعتلالات جينيه او خلل فى هرمون الانسولين. أجريت هذه الدراسه فى ولاية الخرطوم خلال الفتره من يناير 2011م الى مايو 2011م.

الهدف من هذه الدراسه هو م مقارنة مدى حساسية بروتين سى المتفاعل والكولسترول, فى التقدير المبكر **لأمراض** القلب عند السودانين المصابين بالنوع الثانى من مرض السكر.

خمسـه وسبعون عينة دم تم جمعها من المرضى السودانين المصابين بالنوع الثانى من مرض السكر, والذين تتراوح اعمارهم من 30 سنة الى 60 سنة, وكذلك تم جمع عينات من خمسـه وسبعون متطوعين أصحاء لاستخدامهم فى عملية المقارنه. مستوى الكولسترول تم قياسه بالطريقه الانزيميه باستخدام جهاز الطيف الضوئى (بايوسستم 310), أما مستوى بروتين سى المتفاعل فتم قياسه كيميائيا باستخدام الطريقه الذاتيه الاتوماتيكيه مستخدمين جهاز (مندرى بى اس 300).

لوحظ فى الدراسه ان هناك زياده فى مستوى بروتين سى المتفاعل لدى مرضى السكر من النوع الثانى م مقارنة بالاصحاء (1.51 ± 4.56 mg/L) م قابل (0.33 ± 1.57 mg/L) على التوالى عند مستوى معنويه = 00, وقد وجد ان مستوى بروتين سى المتفاعل أعلى لدى النساء اكثر من الرجال المصابين بالنوع الثانى من مرض السكر (1.58 ± 5.7 mg/L) م قابل (1.45 ± 4.1 mg/L) على التوالى. لوحظ ان مستوى بروتين سى المتفاعل قد وصل لاعلى مستوياته خلال فتره مبكره من الاصابه بالنوع الثانى لمرض السكر فى المجموعه الثانيه (من سنة الى خمس سنوات) (1.56 ± 5.2 mg/L), على العكس فان مستوى الكولسترول قد وصل لاعلى مستوياته فى المجموعه الثانيه (بعد مرور عشرون سنة من حدوث الاصابه بالنوع الثانى من مرض السكر).

لوحظ فى الدراسه انه ليس هناك علاقه بين مستوى بروتين سى المتفاعل وفترة الاصابه بالنوع الثانى من مرض السكر لدى المرضى.

الخاتمه: مستوى بروتين سى المتفاعل أعلى لدى مرضى النوع الثانى من مرض السكر من مستواه لدى الاصحاء, وقد وصل لاعلى مستوياته فى الخمس سنوات الاولى من حدوث مرض السكر من النوع الثانى لدى المرضى, أما مستوى الكولسترول فقد وصل لاعلى مستوياته بعد مرور عشرون سنة من حدوث الاصابه بالنوع الثانى من مرض السكر.

