

Sudan University of Sciences and
Technology
College of graduate studies

Characterization of the diabetic kidneys by ultrasound

**توصيف الكلى لدى مرضى السكري
بواسطة الموجات فوق الصوتية**

Thesis submitted for partial fulfillment of Master
degree in diagnostic ultrasound

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بسم الله الرحمن الرحيم

الآية

قال تعالى:

(تبارك الذي بيده الملك وهو على كل شيء
قدير* الذي خلق الموت والحياة ليبلوكم ايكم
احسن عملاً وهو العزيز الغفور). صدق الله
العظيم

سورة تبارك الآية 1-2

I

Dedication

**To my parents
Brothers.... and
.sisters**

.To my teachers

.To my friends

.To my colleagues

Acknowledgments

I thank God for enabling me to complete this thesis. I give my great pleasure to Dr.Elsafy Ahmed the supervisor of my thesis
for his continuous help, supervision and guidance

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I am also very grateful to many individuals who played a part in preparing this work. Thanks to my family who always
encourage & support me

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Abstract

In fact diabetes is the most common cause of kidney failure.

The purpose of study is characterization of diabetic patient kidney by using ultrasound

The study were done for 50 diabetic patient (30male and20 female) all of them have diabetes mellitus (18 type I and 32 type II) for more than three years their ages over 20years were included, and the patient with renal congenital anomalies ,renal tract obstruction, malignant tumor and renal failure wear excluded

In this study ultrasound was perform for all patient by measured the size of kidneys and evaluated the echogencity of right kidney compared with the liver echogencity ,while the echogencity of the left kidney was compared with spleen echogencity and the corticomiddlry ratio was measured also .the ultrasound scan done by using TA carve .liner prop 3.5MHz

the value of the study characterized their is decrease in kidney volume combering with normal range and increase in C/M ratio and no significant different in the echogency

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ملخص الدراسة

يعتبر داء السكري من الاسباب الشائعة للفشل الكلوي والهدف من هذه الدراسة توصيف الكلى لدى مرضى السكري بواسطه الموجات فوق الصوتيه.

اجريت هذه الدراسة في 50 مريض بالسكري 30 ذكور و 20 ايفناث كلهم مصابون بالسكري بنوعيه (18 من النوع الاول و 32 من النوع الثاني) لأكثر من ثلاث سنوات، تزيد اعمارهم عن 20 عام وقد تم استبعاد مرضى السكري المصابين بعيوب خلقيه في الكلى او إنسداد في المجرى البولي او اورام في الكلى.

اعتمدت الدراسة علي قياس حجم الكلى وقياس النسبه بين قشرة ونخاع الكلى بالإضافة لمعدل الصدى الراجع مقارنةً بالصدى الراجع

من الكبد بالنسبة للكلى اليمنى والصدى الراجع من الطحال بالنسبة للكلى اليسرى. كذلك قياس النسبة بين طبقة القشرة والنخاع في الكلى .ولقد اجري الفحص بإستخدام المسبار البطني بواسطة جهاز موجات فوق صوتيه بتردد 3.5 هيرتز.

اوضحت النتائج وجود نقص في حجم الكلى وزياده في النسبة بين طبقة القشرة والنخاع في الكلي بينما لا يوجد تغير في معدل الصدى الراجع .

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List of abbreviation

DM	.Diabetes mellitus
IDDM	.Insulin dependent diabetes mellitus
NIDDM	.Non -insulin dependent diabetes mellitus
CKD	.Chronic kidney disease
DN	.Diabetic nephropathy
C/M ratio	Cortico-medullary ratio
TA	.Transabdominal
K-DOQI	.Kidney Disease outcomes quality
BUN	.Blood urea nitrogen
ACE inhibitor	Angiotensin converting enzyme inhibitor

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