

Dedication

To my parents...

To my family...

To my friends...

Doaa

Acknowledgment

I thank God for enabling me to complete this work. I sincerely thank Dr.Alsafi Ahmed, the supervisor, for his continuous help, supervision and guidance.

I am greatly indebted to Dr.Mohammed El-fadil.

I wish also to express my gratitude to many radiologists; I am indebted to Dr.SaifAldin Mohammed and Dr.YassirMusa.

Finally I would like to thank everyone who has participated in completion of this study.

Doaa

Abstract

The main objective of this study is to determine the echo texture changes in the pancreas and to evaluate changes in the size of the head and the body of the pancreas in both types of diabetic patients by measuring the anteroposterior diameter of head and body of the pancreas

The study has been carried out in Alalim clinic and ultrasound department of college of medical radiological science. It has been done on 25 patients with type II diabetes and 19 patients with type I diabetes, compared with 22 normal controls. General electric and mindary for general purpose ultrasound machines with 3.5 MHz curve linear probe are used. The data was analyzed by using SPSS

The result concluded that the difference between the mean size of the pancreas head of normal control data and the diabetic patients type I with the mean average of 22.4 mm and 15.2 mm respectively, was significant at $p = 0.05$ using t-test, with $t = 8.3$ and $p < .001$. And body of pancreas in type I with mean average of 12.7mm and normal control with mean average of 8.7mm, was significant at $p = 0.05$ using t-

test with $t=12.3$ and $p < .001$. Concerning diabetes type II, the head of the pancreas scored mean equals 21.4 mm and the normal control 22.4 mm. This difference was insignificant at $p=0.05$ using t-test with $t=1.8$ and $p < 0.08$. The body of the pancreas showed an average size of 10.5 mm and the normal control 12.7 mm. This difference was significant at $p=0.05$ using t-test with $t=3.3$ and $p < .003$. The echogenicity of pancreas is greater in type II more than type I.

ملخص الدراسة

الهدف الأساسي- لهذه الدراسة هو تقويم التغيرات التي تحدث في البنكرياس لدى المصابين بداء ارتفاع سكر الدم ' وتحديدًا دراسة حجم رأس وجسم البنكرياس عن طريق القياس الأمامي الخلفي للبنكرياس . وكذلك دراسة التغير- في صدى البنكرياس . وذلك في حالة الإصابة بهذا المرض بنوعيه الأول والثاني .

تمت هذه الدراسة في مجمع العالم الطبي وعيادة الموجات الصوتية بكلية علوم الأشعة الطبية بجهاز موجات صوتية نوع مينداري وجينرال الكتريك مع مسبار تردده 3.5 ميغاهيرتز. وتمت الدراسة على 25 مصاب بنوع السكر الثاني و 19 مصاب بنوع السكر الأول ومقارنة نتائجهم مع 22 شخصًا لم يصابوا بداء السكر أو أي إصابات أخرى

في البنكرياس. استنتجت الدراسة بأن الإختلاف بين- الحجم المتوسط لرأس بنكرياس
بيانات السيطرة الطبيعية والمرضى- بالسكر بالنوع الأول يطبعان بالمعدل المتوسط من
22.4 مم- 15.3 مم- ' على- التوالي- كانت- هامة- في $p=0.05$ بإستعمال- إختبار- تي-'
مع $t=8.3$ و $p<0.001$ وإختلاف- جسم- البنكرياس- في- النوع الأول- بالمعدل-
المتوسط- 12.7 مم- والسيطرة- الطبيعية- بالمعدل- المتوسط- 8.7 مم- كان- مهم-
في- $p=0.05$ بإستعمال- إختبار- تي- مع $t=12.3$ و $p<0.001$ - ونوع السكر-
الثاني- كان- متوسط- رأس- البنكرياس- 21.4 مم- والسيطرة- الطبيعية 22.4 مم-
هنا الإختلاف- كان- غير- مهم- في- $p=0.05$ بإستعمال- إختبار- تي- مع $t=1.8$ و
 $p<0.08$ - وأوضح جسم- البنكرياس- بمتوسط- 10.5 مم- والسيطرة- الطبيعية
12.7 مم- إختلاف- مهم- في- $p=0.05$ بإستعمال- إختبار- تي- مع $t=3.3$ و $p<$
0.003.

كما أوضحت- الدراسة- أن- التغير- في- صدى- البنكرياس- في- النوع الثاني- للمرض-
أكثر- من- التغير- في- النوع الأول-.

List of Abbreviations

	AP	Antero posterior
	Ca ⁺	Calcium
	CCK	cholecystokinin
	Cl ⁻	chloride
CT		Computed Tomography
	DM	Diabetes Mellitus
DNA		Deoxyribo Nucleic Acid
	FFA	Free Fatty Acid
	Hco ₃	Bicarbonate
IDDM		insulin dependent diabetes mellitus
	K ⁺	Potassium
MODY		Maturity onset diabetes of the young
	MRI	Magntic Resonance Imaging
	MRI	Magnetic resonance imaging
	Na ⁺	Sodium
	NaHco ₃	sodium Bicarbonates

NIDDM non insulin dependent diabetes mellitus

PEI exocrine pancreatic insufficiency

Pp pancreatic polypeptide

RNA Ribo Nucleic Acid

US Ultra Sound

VIP Vasoactive intestinal peptide

ZE Zollinger-Ellison

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