### : قال تعالى

### ِ فَتَعَالَى اللَهُ الْمَكُ الْحَقُ وَلَا تَعْجَلْ بِالْ قُرْآنِ مِنْ ۖ قَبْلِ أَنْ ذُ قَضَى إِلَيُ وَحْيُهُ وَ قُلْ رَبِّ زِدْنِي عِلْمًا }

طه 114

### Abstract

This is a descriptive study which was conducted in different Khartoum hospitals and medical centers. And carried out during the period from August to November 2011, to Characterize Pancreatic Diseases by using Multidetectors Computed Tomography (MDCT).

Out of 25 patients, 12 were males(48%) and 13 were females(52%), the commonest pancreatic disease was found to be cystic lesions =36%, the common pancreatic lesion site and size was found to be the head of the pancreas medium lesion which is + 3cm and - 6 cm = 36%, the most commonest pancreatic lesions were enhance the contrast was found to be tumor =16%, while the lesion not enhanced the contrast was found to be cystic lesion =36%.

#### <u>ملخص البحث</u>

هـذه دراسـه لوصـف أمـراض البنكريـاس باسـتخدام جهـاز الأشـعة المقطعية متعدد الكواشف اجريت بمستشـفيات الخرطـوم ومراكـز طبية مختلفة في الفترة ما بين: أغسطس الي نوفمبر 2011 م.

من اجمـالى 25 مريـض، منهـم 12 ذكـور بنسـبة 48% و 13 انـاث بنسبة 52%، أكثر أمراض البنكرياس شـيوعا وجـدت هـى تقرحـات تكيسيه تعادل نسبة 36%. وحجم ومكان التقرح البنكرياسى الأكـثر شيوعا وجد أنه هو رأس البنكرياس بحجم متوسط يتراوح ما بيـن 3 الـى 6 سـنتيميترات، وعنـد اسـتخدام وسـيط تبـاين وجـد أن أكـثر التقرحات البنكرياسية شيوعا هى الورمية حيث يظهـر فيهـا التبـاين بنسبة 16%، بينما وجد أن التقرحات التى لايظهر فيهـا التبـاين هـى التقرحات التكيسية بنسبة 36%.

### Contents

Торіс	Pages
الآية	I
Abstract	li
ملخص البحث	lii
Contents	lv
Dedication	V
Acknowledgement	Vi
List of tables	Vii
List of figures	Viii
Abbreviations	lx
Chapter one	
Introduction	1
Chapter two	
Background	3
Chapter three	
Material and methods	26
Chapter four	
Results	30
Chapter five	
Discussion, Recommendations and conclusion	46
References	50
Appendices	52

# **Dedication**

To:

# My family

#### \*\*\*

# My teachers

#### \*\*\*

# My friends

#### \*\*\*

# And my colleagues who walked the path with me

## <u>Acknowledgement</u>

I would like to transmit my unlimited thanks and respect to my teacher and supervisor Dr. Hussein Ahmed Hassan, I appreciate very much his patience, guidance and support.

I extend my heartfelt thanks to my senior colleague Isameddin Fadlelmoula for his assistance and advising.

Finally I'm thankful and appreciative to all those who help

## me and support me, specially my family, my relatives and my friends.

#### List of tables

Tables	Pag es
Table (4-1): shows gender distributions	30
Table (4-2): shows the range of patient's ages	31
Table (4-3): shows patient's gender distributions and their percentages	32
Table (4-4): shows the pancreatic lesions distributions	33
Table (4.5) pancreatic lesion site	34
Table (4.6 ) shows pancreatic lesions size	35
Table (4.7) pancreatic lesion contrast enhancement	36
Table (4.8) pancreatic cyst type	37
Table (4.9) pancreatic tumors type	38
Table (4.10) shows pancreatic inflammatory type	39
Table (4.11) shows pancreatitis characterizations	40
Table (4.12) shows pancreatic tumors characterizations	41
Table (4.13) shows pancreatic cyst characterizations	42

Table (4-14)shows the cyst density when compared with spleen	43
Table (4-15) : shows the tumor density when compared with spleen	44
Table (4-16) : shows the inflammatory density when compared with spleen	45

### List of figures

Figures	Pag es
Figure 2.1 illustrate the pancreas position and anatomy	3
Figure 2.2 cross section of CT shows normal anatomy of pancreas and relation	15
Fig2.3 Contrast enhanced axial computed tomography (CT) shows a pancreatic abscess.	16
Figure2.4 Contrast enhanced axial computed tomography (CT) shows non- enhancement of the swollen pancreatic body and tail (arrows) compatible with pancreatic necrosis	18
Figure 2.5 Contrast enhanced CT in acute pancreatitis with edematous pancreas (asterisk) inflammatory change in peripancreatic soft lesion	19
Figure 2.6 Contrast enhanced axial computed tomography (CT) showing an atrophic pancreas (arrows) with dilated pancreatic duct (open arrows).	20
Figure 2.7 Magnified AXR shows a cluster of coarse calcification (arrowheads) along the perceived location of the pancreas (L1 and L2	20

levels)

Figure 2.8 Contrast enhanced axial computed tomography (CT) showing evidence of acute or chronic pancreatitis.	
Figure 2.9 Contrast enhanced axial computed tomography (CT) shows a hypodense tumor in pancreatic head (arrow).	22
Figure 2.10 Contrast enhanced axial computed tomography (CT) of a small cystic tumor in the pancreatic head (arrow).	23
Figure 2.11 Contrast enhanced axial computed tomography (CT) showing a large necrotic tumor in the pancreatic head (arrow).	24
Figure 2.12 Contrast enhanced axial computed tomography (CT) showing a pancreatic head tumor.	25
Figure (4-1): shows the gender distribution, and percentage	30
Figure (4-2): presentation of range of patient's age and their percentage	31
Figure (4-3): presentation of range of patient's ages and gender distributions	32
Figure (4.4): shows the pancreatic lesions distributions	33
Figure (4.5): shows the pancreatic lesions percentages	34
Figure (4.6) pancreatic lesion site	34
Figure (4.7) present pancreatic lesion size	35
Figure (4.8) present pancreatic lesion contrast enhancement	36
Figure (4.9) present pancreatic cyst type	37
Figure (4.10) present pancreatic tumors type	38
Figure (4.11) present pancreatic inflammatory type	39
Figure (4.12) present pancreatitis characterizations	40
Figure (4.13) present pancreatic tumors characterizations	41

Figure (4.14) present pancreatic cyst characterizations42

Figure (4.15): present cystic density when compared with spleen	43
Figure (4.16): present tumor density when compared with spleen	44
Figure (4.17): present inflammatory density when compared with spleen	45

#### **Abbreviations**

3D	: Three Dimen	sion	
CT	: Computed To	Computed Tomography	
CTA	: Computed To	Computed Tomography Angiogram	
ERCP	: Endoscopic re	Endoscopic retrograde cholangiopancreatogram	
MDCT	: Multi Detecto	ors Computed Tomography	
<b>MSCT</b>	: Multi Slice C	omputed Tomography	
PTBD	: percutaneous t	ranshepatic biliary drainage	
JS	: Ultrsonograpy		
CTA ERCP MDCT MSCT PTBD JS	: Computed To Endoscopic re Multi Detecto Multi Slice Co percutaneous t Ultrsonograpy	mography Angiogram etrograde cholangiopancreatogram ors Computed Tomography omputed Tomography cranshepatic biliary drainage	