

Dedication

To...

my family , my teachers , my
friends and my colleagues ...

Isam Eddin

Acknowledgement

I am extremely grateful to many people who supported me during this practical study.

First, I would like to express my deep gratitude to my supervisor Dr. Bushra Hussein Ahmed for his great support and advice.

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Abstract

This is a comparative study concerned with the diagnosis of autosomal dominant polycystic kidney disease in adults Sudanese patients by using CT scan and ultrasound .

The study employed a simple methodology, including data collection from medical imaging using the tow modalities prospectively .

Random samples of twenty patients (males and females). they were scanned with ultrasound and ten of them were then scanned with CT scan as requested by their clinicians , data was statistically analyzed and findings were tabulated, computed and graphically represented.

The results were interpreted by different Radiologists for both modalities confirmed that the presence of the disease associations and complications been presented by these modalities .

The study showed that CT is higher than U/S in detecting some of ADPKD findings likes ; very small hepatic cysts (80%) in CT and (30%) in U/S , splenic cysts (10%) in CT and (0%) in U/S and pancreatic cysts (30%) in CT and (10%) in U/S .

ملخص البحث

هذه دراسة مقارنة اهتمت بتشخيص مرض التكييس الكلوي عند المرضى السودانيين البالغين بواسطة الأشعة المقطعية بالكمبيوتر و الموجات فوق الصوتية.

احتوت الدراسة على طرق بحث مبسطة مثل جمع البيانات من التصوير الطبي باستخدام الوسيلتين بالتتابع .

أخذت عينات عشوائية من المرضى البالغين (ذكور و إناث) تتكون من عشرين مريضاً من مختلف الأعمار و الأعراض ، خضع كل المرضى لفحوصات الكلى بالموجات الصوتية و عشرة منهم بعد ذلك تم تصويرهم بالأشعة المقطعية ، تم تحليل هذه البيانات وتسجيلها في شكل نسب ورسم بياني بالحاسوب.

شخص هذه الحالات أخصائون بالأشعة المقطعية و الموجات الصوتية و كانت النتائج كلها تؤكد وجود علامات و مضاعفات مرض التكييس الكلوي لكل الوسيلتين .

الدراسة أظهرت أن الأشعة المقطعية بالكمبيوتر أعلى من الموجات فوق الصوتية في اكتشاف بعض مظاهر مرض التكييس الكلوي مثل ؛ أكياس الكبد الصغيرة جداً (80%) في الأشعة المقطعية و (30%) بالموجات فوق الصوتية ، أكياس الطحال (10%) بالأشعة المقطعية و (0%) بالموجات فوق الصوتية و أكياس البنكرياس (30%) بالأشعة المقطعية و (10%) بالموجات فوق الصوتية .

Abbreviations

U/S: Ultrasound.
CT: Computed tomography.
MRI: Magnetic resonance imaging.
PKD : Polycystic kidney disease .
ARPKD : Autosomal Recessive Polycystic kidney disease.
ADPKD : Autosomal Dominant Polycystic kidney disease.
IVC : Inferior vena cava .
SMA: Superior mesenteric artery .
KUB : Kidney Ureter Bladder .
AP : Antero-posterior.
H : Hounsfield units.
BUN : Blood urea nitrogen.
BHP : The blood hydrostatic pressure.
ANP: Atrial natriuretic.
ADH : Antidiuretic hormone.
PTH : Parathyroid hormone.
CD : The collecting duct.
UTIs : Urinary tract infections.
DAS : Data acquisition system .
TGC : Time gain compensation .
LAN : local area network .
DICOM :Digital Imaging and Communication in Medicine .
A/D : Analog-to digital.
RF : Radiofrequency.
CM : Contrast media .
RIS : Radiology Information System
HIS : Hospital Information System .

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