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**تقويم تركيب الكلى لدى مرضى ارتفاع ضغط الدم السودانيين
باستخدام الاشعة المقطعية**

**Evaluation of Renal Morphology of Sudanese
Hypertensive Patients by Using Computed Tomography.**

**A thesis submitted for partial Fulfillment for The
Requirements Of M.SC Degree In Diagnostic Radiological
Technology.**

Prepared by :

Jwryah Yousef Mohammed Abubaker

Supervised by:

Dr. Hussain Ahmed Hassan

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الرَّحْمَنَ (1) عَلَّمَ الْقُرْآنَ (2) خَلَقَ الْإِنْسَانَ (3) عَلَّمَهُ الْبَيَانَ (4)
الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ (5) وَالنَّجْمُ وَالشَّجَرُ يَسْجُدَانِ (6) وَالسَّمَاءَ
رَفَعَهَا وَوَضَعَ الْمِيزَانَ (7) أَلَّا تَطْغَوْا فِي الْمِيزَانِ (8) وَأَقِيمُوا الْوَزْنَ
بِالْقِسْطِ وَلَا تُخْسِرُوا الْمِيزَانَ (9) وَالْأَرْضَ وَضَعَهَا لِلْأَنَامِ (10) فِيهَا
فَاكِهَةٌ وَالنَّخْلُ ذَاتُ الْأَكْمَامِ (11) وَالْحَبُّ ذُو الْعَصْفِ وَالرَّيْحَانُ (12)
فَبِأَيِّ آلَاءِ رَبِّكُمَا تُكَذِّبَانِ (13)

صدق الله العظيم

DEDICATION

This Research is dedicated to my respective parents who have been my constant source of inspiration. They have given me the drive and discipline to tackle any task with enthusiasm and determination .Without their love and support this project would not have been made possible...!!!!!!!

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List of Abbreviations

CT	computed tomography
KUB	kidney, ureter, bladder
ACE	Angiotensin converting enzyme
GFR	Glomerular filtration rate
ARBS	Angiotensin receptor blockers
MDCT	Multidetector computed tomography
MPR	Multiplanar reformation
MIP	Maximum intensity projection
VRT	Volume rendering technique
LPP	Length from pole to pole
SRA	Stenosis of renal arteries
NRA	Number of renal arteries

Abstract:-

This study was executed to demonstrate variation in kidneys measurements or renal dimensions (length, width, depth, cortex and medulla) for patients with high blood pressure, the study was conducted at computed tomography department in Modern Medical Center. This was expanded from September 2015 up to January 2016.

Random samples of fifty patients whom referred to computed tomography department with computed tomography for kidney, ureter, bladder request, 25 control group and 25 study group with different age were collected, axial and sagittal cuts in addition to reconstructed coronal section were done to calculate the kidney size clearly.

Statement of problem most of the previous studies at this scope were done outside the Sudan, mainly at the United States of America, so the researches need to be conducted in Sudanese population to approve the relation between structural changes of the renal, which may appear on computed tomography, and high level of blood pressure.

The objectives of this study are: To verify the relation between the structural changes of the renal and high blood pressure, To define the role of the computed tomographic and its technique in evaluation of kidney size, To measure the kidney size, and estimate the variations in kidney in patients with hypertensive.

Recommendation of the study: Further studies in evaluation renal morphology for hypertensive patient with large sample of population for more accurate.

Results that correlate with duration and age, However, for these Two group the Length Depth, width, cortex and medulla it may effect by the age and duration increases.

ملخص البحث

اجريت هذه الدراسه لمعرفة الاختلافات التشريحيه لقياس الكلي وابعادها (الطول ، العرض ، الارتفاع والقشره) لمرضى ضغط الدم وذلك في قسم الاشعه المقطعيه بالمركز الطبي الحديث ، وذلك في الفتره مابين سبتمبر 2015 الي يناير 2016.

اخذت عينه عشوائيه من خمسين مريض تم تحويلهم الي قسم الاشعه المقطعيه بطلب فحص اشعه مقطعيه للجهاز البولي من مختلف الاعمار , وقد خضع جميع المرضى لاجراء الوضعين (المحوري و السهمي) بالاضافه للوضع التاجي المركب وذلك لقياس حجم الكليه بوضوح .

مشكله البحث معظم الدراسات السابقه اجريت خارج السودان، والباحث محتاج لاجراء البحث في السودان لموافقته علاقه بين التغير التركيبي في الكلي التي تظهر في الاشعه المقطعيه وارتفاع ضغط الدم.

الاهداف هي التحقق من العلاقه بين التغير التركيبي للكلي وارتفاع ضغط الدم، التعرف علي دور الاشعه المقطعيه في تقييم حجم الكلي، قياس حجم الكلي وتقدير تغيرات الكلي في مرض ارتفاع ضغط الدم.

توصيه الدراسه تكون في داراسه في المستقبل عن تقييم الشكل الكلوي لمرضى ارتفاع ضغط الدم مع عينات كبيره لدقه اكبر.

النتائج التي ترتبط بالمده الزمنيه والعمر توضح ان كل مازاد كل من الفتره الزمنيه والعمر كل ماقل كل من الطول , العرض, العمق, القشره الخارجيه والداخليه لمرضى ارتفاع ضغط الدم للمجموعتين.

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