

**بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ**

**: قال تعالی**

**(علم الأنسان ما لم یعلم)**

**صدق الله العظیم**

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## ***Dedication***

*To my mother ,*

*father ,*

*brothers ,*

*and sisters .*

*To my kid Doha and her mother ,*

*To my teachers ,*

*To all those who help me in preparation of this subject .*

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Holly Quraan

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Dedication

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Abstract (English )

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### **List of Abbreviations**

Meaning	Abbreviation
Aquired cystic kidney disease associated with dialysis .	ACKDD
Adult polycystic kidney disease .	ADPKD
Acute renal failure	ARF

Blood pressure	BP
Chronic renal failure	CRF
End stage renal disease	ESRF
Figure	Fig
Glomerular filtration rate	GRF
Haemodialysis	HD
Megahertz	MHz
Polycystic kidney disease	PCKD
Pretoneal dialysis	PD
Renal cell carcinoma	RCC
Standard deviation	SD
Statistical Software Package for Social Sciences	SPSS

### Abstract

This study set out to determine renal morphology in patients with chronic renal failure whom had been on haemodialysis , using ultrasound. In this study, 55 patients with CRF and on HD, were studied by ultrasonography which is accepted to be the most suitable noninvasive technique for the estimation of renal morphology .We use ultrasound scanner (Mindray (DP-3300) China ), and (2.5- 5 ) MHz sector transducer .This had been done at Kosti Teaching Hospital– Renal Dialysis Center.The kidney length ,width and thickness were measured using electronic caliber ,and kidney volume was calculated using the formula :

kidney volume = kidney length × kidney width × kidney thickness × 0.523 . Renal shape index was calculated using the formula : kidney shape index = kidney length ÷ ( kidney width + kidney thickness ) .

Of the study group , 58.2% were males and 41.8% were females , their ages were ( 47.3 ± 16.6 ) years ,weight (52±15.3) kg. and have been on dialysis for (2.8± 2.1) years.

This study conclude that , the right kidney found to be more echogenic than the left kidney and the left kidney is more liable to cystic degeneration than the right kidney . In this study, it has been noticed that there is a negative and significant correlation between kidney volume and dialysis duration on both kidneys , and there is positive correlation between the patient age and kidney volume . Our data also showed that kidney volume has positive correlation with patient weight .

The right kidney becomes thinner and narrower while the left kidney becomes wider and thicker as dialysis duration increases

### مستخلص الدراسة

أجريت هذه الدراسة لتقييم الشكل الظاهري للكلى لدى مرضى فشل الكلية المزمن الخاضعين للعلاج عن طريق الاستئصال الدموي وذلك باستخدام الموجات فوق الصوتية . و كانت الدراسة قد أجريت فى مركز غسيل الكلى بمستشفى كوستى التعليمى - ولاية النيل الأبيض - السودان , وذلك لغرض رصد التغيرات التى تحدث الشكل الظاهري للكلية لدى هذه المجموعة من المرضى و نمط هذه التغيرات. و ربط ذلك بعدة متغيرات مثل العمر و مدة العلاج . لقد قمنا بأجراء كشف الموجات فوق الصوتية فوق الصوتية على عدد 55 مريض بواسطة جهاز موجات فوق صوتية (Mindray (PD – 3300 ) China ) and ( 5 – 2.5 ) MHZ sector ماركة وقد شملت العينة 58.2 % من الذكور و 41.8 % من الاناث وكانت . . transducer أعمارهم ( 16.6± 47.3 ) سنة وأوزانهم ( 15.3 ± 52 ) كيلوجرام وخضعوا للاستئصال الدموي لمدة ( 2.1 ± 2.8 ) سنة . أجرينا قياسات للكلية اليمنى و اليسرى كل على حدة و شملت هذه القياسات طول وعرض و سمك الكلية ثم حسبنا حجمها بتطبيق المعادلة : حجم الكلية = طول الكلية × عرضها × سمكها × 0,523 وتم حساب مؤشر الشكل بتطبيق المعادلة : مؤشر الشكل = الطول ÷ ( العرض +

تم تحليل البيانات وحساب العلاقات بين المتغيرات باستخدام برنامج  
وقد خلصت ( SPSS ) Statistical Software Package for Social Sciences  
الدراسة الى أن الموجات فوق الصوتية من أسهل و أنسب وسائل الفحص لتقييم  
الشكل الظاهري للكلى عند مريض فشل الكلية المزمن لأنها لا تحوى تدخلا  
مباشرا لأجراء الفحص . وقد أوضحت الدراسة أن الكلية اليمنى أكثر قابلية لعكس  
الموجات فوق الصوتية مقارنة بالكلية اليسرى و أن الكلية اليسرى أكثر قابلية  
لتكوين الخراجات الناتجة عن عملية الأستصفاء الدموى الصناعى مقارنة بالكلية  
اليمنى . أما حجم الكلية فإنه يتناسب عكسيا مع مدة التعرض لعملية الأستصفاء  
الدموى الصناعى و طرديا مع عمر المريض . وبدراسة العلاقة بين وزن المريض  
و حجم الكلية عند هؤلاء المرضى فأن حجم الكلية يتناسب طرديا مع وزن  
المريض . كما أنه كل ما زادت مدة تعرض الكلية للاستصفاء الدموى فأن الكلية  
اليمنى تقل سمكا و عرضا و تزداد طولاً , أما الكلية اليسرى فأنها تزداد سمكا و  
. عرضا و تقل طولاً

