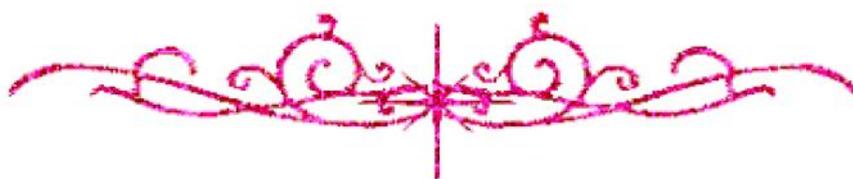


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شبكة المعلومات الجامعية

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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

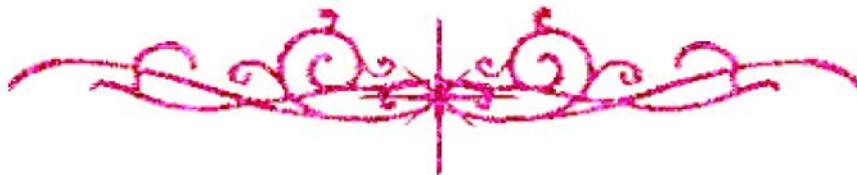
قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



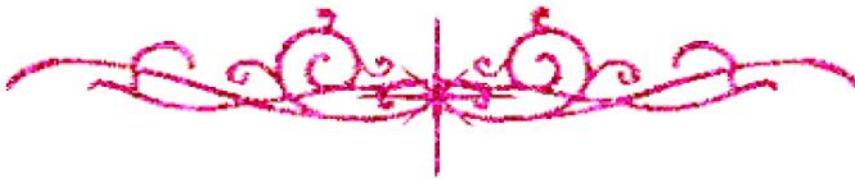
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شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



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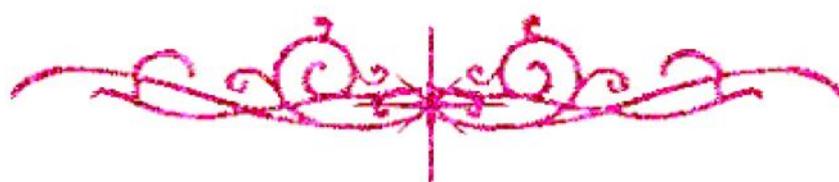


شبكة المعلومات الجامعية



بالرسالة صفحات

لم ترد بالأصل



**THE ROLE OF DUPLEX DOPPLER
SONOGRAPHY IN EVALUATION OF CASES
WITH UPPER URINARY TRACT
OBSTRUCTION**

B 16635

Thesis

Submitted In Partial Fulfillment For the M.D. Degree in Urology

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(سَتَرِيهِمْ أَيْدِيَنَا فَهِيَ الْإِفْطَاقُ وَفِي أَنْفُسِهِمْ حَتْمٌ يَشِيرُ إِلَيْهِمْ أَنَّهُ

الْحَقُّ، أُولَئِكَ يَكْفُرُ بِرَبِّكَ أَنَّهُ

عَلَىٰ كُلِّ شَيْءٍ شَهِيدٌ)

(سورة فصلت، الآية ٥٣)

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Abbreviations

- RBF : Renal blood flow
- GFR : Glomerular filtration rate
- ERPF : Effective renal plasma flow
- PUJO : Pelviureteral junction obstruction
- US : Ultrasonography
- PUT : Plain X-ray to urinary tract
- MRI : Magnatic resonance imaging
- MRU : Magnatic Resonance urography
- PCN : Percutaneous nephrostomy
- CT : Computed tomography.
- IVU : Intravenous urography
- RI : Resistive index
- PI : Pulstility index
- d RI : Inter renal resistive index
- F⁺²⁰ : Furosemide plus twenty
- F⁻¹⁵ : Furosemide minus fifteen
- ROIs : Regions of interest
- DMSA : Dimercpto Succinic acid
- DTPA : Diethylene Triamine Pentoacetic acid
- MAG3 : Mercaptoacetyl Triglycine
- OIH : Orthoiodo Hippuric acid
- ^{99m}Tc : ⁹⁹metastable Techntium
- RARE : Rapid acquisition with relaxation enhancement
- FSE : Fast spin echo
- UTI : Urinary tract infection
- ESWL : shock wave lithotripsy.

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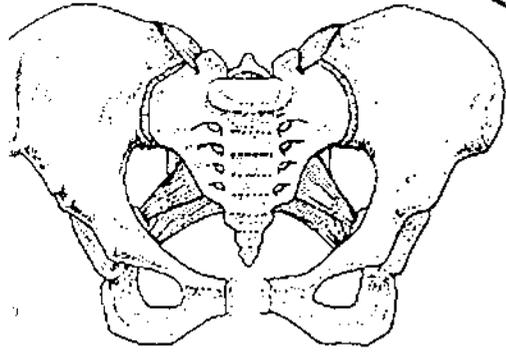
INTRODUCTION

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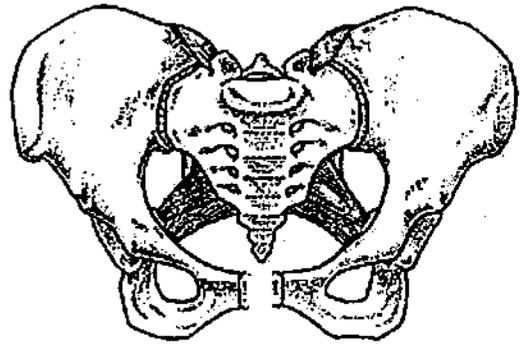
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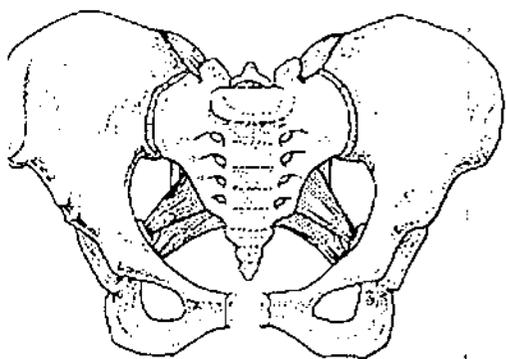


Introduction and aim of the work

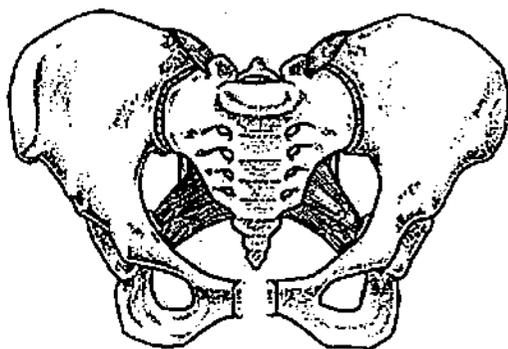
One of the fundamental principles of urologic surgery is the relief of the obstruction to prevent further deterioration of renal function. As the resultant hydronephrosis due to obstructive uropathy is one of the few causes of reversible renal damage. Many years of scientific researches has been directed towards improving early diagnosis (**Gillenwater et al., 1992**).

Recovery of the renal function is assumed after relief of the obstruction. The recovery potential depends on many factors, the most important of which are early diagnosis, rapid intervention to relieve the obstruction, the severity of renal damage and presence of infection. Greater recovery is seen under the stimulus of impaired function of the opposite kidney(**Talner et al., 1986**).

The aim of this work is to evaluate the role of duplex Doppler sonography in diagnosis and follow up after proper mangment of cases with upper urinary tract obstruction compared with the standard diagnostic techniques (as plain and IVU or diuretic renogram).



REVIEW OF LITERATURE



REVIEW OF LITERATURE

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renal arteries that usually arise from the aorta (**Kablin, et al., 1994**). Renal vasculature segmentation was initially recognized by **John Hunter in 1794** but the primary branching was provided by **Graves in 1956** who studied casts and radiographs of injected kidneys. He described five vascular segments:-

- 1-**Apical branch**: occupying the medial side , anterior and posterior part of the upper pole.
- 2-**Upper branch**: including the rest of the superior pole.
- 3-**Lower branch**: which encompasses the whole lower pole.
- 4-**Middle branch**: which lies between the upper and lower segments.
- 5-**Posterior branch**: which includes the whole posterior aspect of the kidney between the apical and lower segments.

Also, he added that the vascular segments are supplied by arteries which have no anastomosis with their neighboring vessels as they are end arteries. In contrast the large intrarenal veins have no segmental organization and anastomose freely (**Anderson et al., 1984**).

Within the medulla, the segmental arteries divided into intralobar arteries, which ascend toward the cortex within renal columns of Bertini at the sides of pyramids. At the corticomedullary junction, branches of the interlobar vessels course parallel to the renal surface as arcuate arteries then divided and ascend perpendicularly toward the renal capsule within the cortex as interlobular arteries. Each interlobular artery gives rise to about 20 afferent glomerular arterioles and within the glomerulus, each afferent arteriole gives off 20-40 capillary loops. The outflow from the glomerular capillaries passes into the efferent arterioles which leaves the glomerulus

along side the afferent arteriole at vascular pole . The efferent arterioles of superficial cortical glomeruli break again to form the peritubular capillary plexus that nourishes the convoluted tubules in the cortex.

The capillary network represents the first of several microcirculations to be encountered in the process of blood transit through the kidney. Thus the blood exit the glomerular microcirculation in efferent arteries rather than venules (Kaplin J.N., 1999).

(B) Venous drainage:-

The true venous circulation of the kidney as blood exits the capillaries of the peritubular networks and vasa recta. Venules from regions throughout the cortex merge into interlobular veins and descend toward the corticomedullary junction where they are joined by veins draining the medullary microcirculation.

The subsequent pattern of arcuate, interlober and segmental veins is similar to that found in the arterial circulation except for the presence of multiple anastomosis between veins at all levels of venous circulation (Mc vey et al., 1984).

Lymph drainage: -

The renal lymphatics are abundant and follow the renal vessels to exit the renal parenchyma and form multiple large lymphatic trunks within the renal sinus. Lymphatics from the renal capsule and perinephric tissue join these trunks (Redman, 1996).