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**ROLE OF ULTRASONOGRAPHY IN DIAGNOSIS OF
SPACE OCCUPYING LESIONS OF THE KIDNEY**

57.20

ESSAY

**Submitted in Partial Fulfilment of
the M.Sc. Degree in**

RADIO-DIAGNOSIS

BY

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1991

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

” قَالُوا سُبْحَنَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ “

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PART I

INTRODUCTION AND AIM OF WORK

INTRODUCTION AND AIM OF WORK

Space occupying lesions of the kidney constitute one of the major diagnostic problems. Clinically they may present as abdominal masses, renal pain or by haematuria.

The conventional radiological procedures had limited role in defining the nature of renal space occupying lesions.

The newly developed, non invasive modalities as C.T and ultrasound had revolutionized our diagnostic capabilities.

High resolution real time systems play a special role in kidney imaging. That role is the evaluation of the consistency, location, nature, extent and complications of any space occupying lesion.

The aim of this work is to review and demonstrate the value of the non invasive imaging modality (Ultrasonography) in assessment and evaluation of the space occupying lesions of the kidney.

PART II

REVIEW OF LITERATURE

PATHOLOGICAL CLASSIFICATION OF SPACE
OCCUPYING LESIONS

More than one author classified the S.O.L. of the kidney.

I. DEMING and HARVARD classification (1970):

DEMING & HARVARD (1970) established eleven categories of renal masses with multiple subdivisions embracing virtually every known new growth that may involve the kidney, common, uncommon or rare and including the various renal cystic disorders as well as the pararenal and retroperitoneal tumors that involve the kidney secondarily.

A- NEOPLASTIC LESIONS:

1- Tumors of renal capsule:

- Fibroma.
- Leiomyoma.
- Lipoma.
- Mixed tumors.

2- Tumors of the mature renal parenchyma:

- Adenoma.
- Adenocarcinoma
- Oncocytoma. (Hypernephroma)
- (Renal cell carcinoma)
- (Alveolar carcinoma)

3- Tumors of immature renal parenchyma:

- Nephroblastoma. (Wilms tumor)
- Embryonic carcinoma.
- Sarcoma.

4- Epithelial tumors of the renal pelvis:

- Transitional cell papilloma.
- Transitional cell carcinoma.
- Squamous cell carcinoma.
- Adenocarcinoma.

5- Vascular tumors:

- Hemangioma.
- Hamartoma. (Angiomyolipoma)
- Lymphangioma.

6- Neurogenic tumors:

- Neuroblastoma.
- Schwannoma.
- Sympathecoblastoma.

7- Heteroplastic tissue tumors:

- Adipose tissue.
- Smooth muscle.
- Adrenal rests.
- Endometriosis.

8- Mesenchymal derivatives:

- Connective tissue: Fibroma, Fibrosarcoma.
- Adipose tissue : Lipoma, Liposarcoma.
- Muscle tissue : Leiomyoma,
Leiomyosarcoma, Rhabdo-
myosarcoma.

9- Secondary tumors:

- Carcinomas.
- Blastomas.
- Sarcomas.
- Thymoma.
- Lymphoma.

B- CYSTIC LESIONS.C- INFLAMMATORY LESIONS:

- Acute, Subacute and chronic renal abscesses.
- Infected renal cysts.
- Infected calyceal diverticulum.
- Xanthogranulomatous pyelonephritis.

II- LAKEYS'S CLASSIFICATION (1975):A- BENIGN TUMORS:

- | | |
|---------------------------------|-------------------|
| 1- Adenoma. | 2- Fibroma. |
| 3- Lipoma. | 4- Leiomyoma. |
| 5-Angioma. | 6- Rhabdomyoma. |
| 7- Neurofibroma. | 8- Endometriosis. |
| 9- Angiomyolipoma. (Hamartoma). | |

B- MALIGNANT TUMORS:

- 1- Nephroblastoma. (Wilms Tumor)
- 2- Adenocarcinoma. (Hypernephroma)
- 3- Sarcomas:
 - a) Fibrosarcoma.
 - b) Liposarcoma.
 - c) Leiomyosarcoma.
 - d) Rhabdomyosarcoma.
- 4- Lymphoblastoma:
 - a) Lymphoma.
 - b) Myeloma.
- 5- Secondary malignant tumors.