

**RETROSPECTIVE STUDY OF RENAL TUMOR IN
SULAIMANIYA GOVERNORATE****Ismaeel Hamma Ameen*, Kamaran Ahmed Mehdi#**

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Abstract

Fifty seven patients with renal tumor were analyzed in terms of incidence, age, sex, histopathological type, clinical presentation and risk factors regarding renal carcinoma.

This study was conveyed in Chwarbakh Surgical Hospital, Sulaimaniyah Teaching Hospital, Shorsh Teaching Hospital and the private hospitals in Sulaimaniyah from December 1999-December 2002 and the data were as the following:

The commonest presenting age was between 60-80 years, apart from Wilm's tumor which was between 0.4-7 years of age, and the female to male ratio was 2.2:1.5. The tumor was more prevalent in urban than in rural areas. Most of the tumors were renal adenocarcinoma. Clear cell type was the predominant histological type, commoner on the left, with predilection to the upper pole. Abdominal pain, hematuria, and abdominal mass were the commonest presenting features. Ultrasound, intravenous urography, and computerized tomography scan were the important diagnostic tools. The most important risk factors were obesity, smoking and associated renal disease.

Introduction

The evolution of knowledge about renal tumor is in fact related to the introduction of nephrectomy. The historical data available dates back to more than 100 years ago¹. At autopsy malignant tumors are much less common in the kidney than in several other organs², while adenomas are frequently noted³, but malignant tumors are of great importance clinically. By far the commonest of these malignant tumors are renal cell carcinoma followed by Wilm's tumor which is found in children and finally urothelial tumors of the calyces and pelvis⁴.

Adenocarcinoma is the most common malignancy involving the kidney³. It accounts for 3% of all adult

malignancies and 85% of all primary malignant renal tumors⁵ and accounts for approximately 2% of cancer death⁶. It rarely develops before puberty but may occur at any age thereafter. The incidence rises after the age of 40⁶. Renal Cell Carcinoma comprises 85% of malignant renal tumors⁷. Renal carcinoma occurs most commonly within fifth to sixth decades particularly in those over the age of 65 years, there is a 2:1 male predominance^{5,8-10}.

The numerous conditions that predispose to renal cell carcinoma including polycystic adult kidney disease, von Hippel-Lindau syndrome, horse-shoe kidney and acquired renal cystic disease developing in patients with end stage renal disease¹¹.

It is difficult to identify unequivocally the true risk factors, however tobacco

consumption and severe obesity were the main independent risk factors¹². Cytogenic studies most commonly show defects on chromosome³.

Higher body mass index and elevating blood pressure independently increase the long term risk of renal cell carcinoma¹³. Substantial exposure to metals and solvent may be nephrocarcinogenic. There is evidence for a gender specific susceptibility of the kidneys^{14,15}, and family history of first and second degree relatives with kidney cancer was similarly associated with an increased risk of renal cell carcinoma¹⁶.

Only 1-2% of Wilm's tumor is familial: certain chromosomal defects have been describe, teratogens have not yet been studied completely to identify its causative factors¹⁷.

Although the kidneys are frequent sites of metastasis deposits from a variety of solid tumors and hematological malignancies¹, secondary carcinoma in the kidney is not uncommon. However metastasis are neither as frequent nor as numerous as might be expected in the review of the very large blood supply to the kidney².

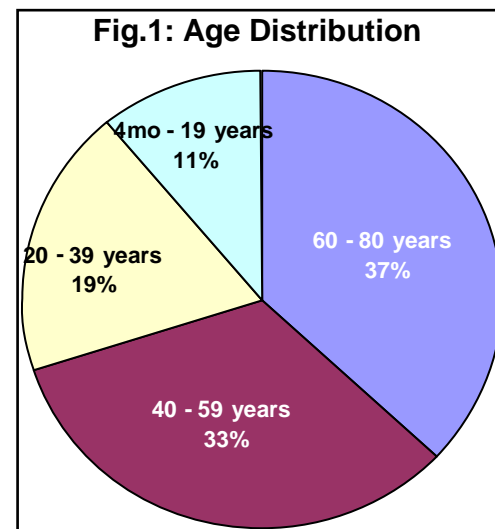
Patients and Methods

The clinical history of 57 patients who underwent nephrectomy for renal tumors in Sulaimaniyah governorate hospitals, (including Teaching hospital, Chwarbakh hospital, military and private hospitals), over three years (from 1/2/1999 to 1/12/2002) were examined.

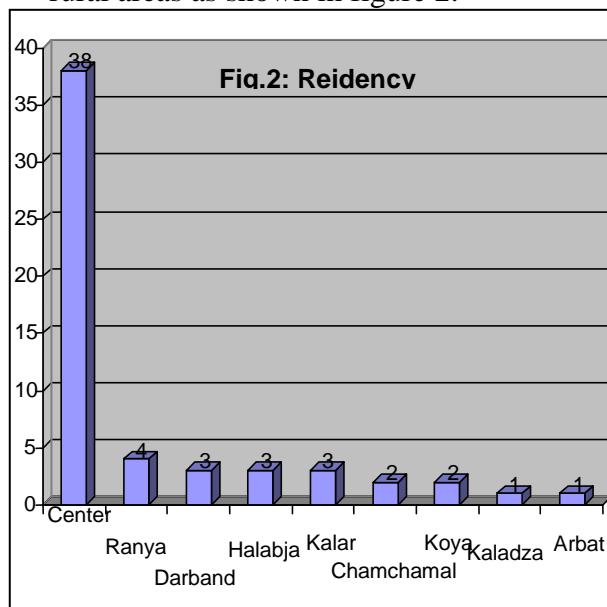
Database was recorded for subsequent analysis; it included age, sex, residency, clinical presentation, histopathological type, obesity, smoking, hypertension, and associated renal diseases.

Results The average age of the 57 patients with renal tumor was between 4

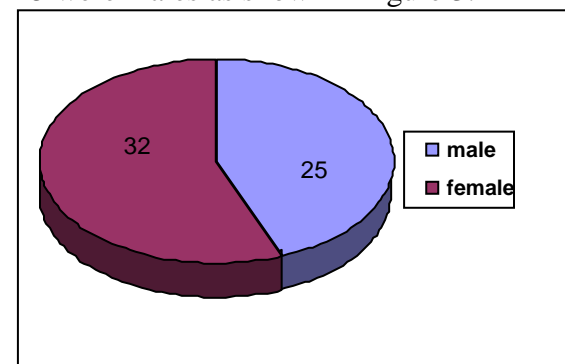
months to 80 years, figure 1.



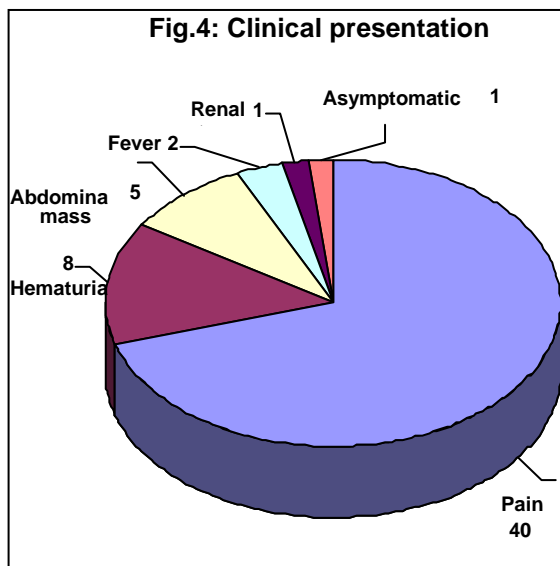
Thirty eight patients were from Sulaimaniyah while the rest were from rural areas as shown in figure 2.



Out of 57 patients, 32 were females and 25 were males as shown in figure 3.



Regarding clinical presentations, 40 patients presented with pain, 8 with hematuria, 5 with abdominal mass, 2 with fever, one with renal stone and one was asymptomatic incidentally diagnosed, as shown in figure 4.



Out of 57 patients, 33 had left side renal tumor, and 24 had right side renal tumor, and 25 patients were with upper pole tumor.

Out of 57 patients, 39 had renal cell carcinoma, 2 with von Hippel-Lindau disease, 4 had Wilm's tumor, 3 had secondary renal tumor (from lung, testicle and lymphoma). 9 patients had benign renal tumors; (5 with Angiomyolipoma, 2 with Oncocytoma, one with Juxtaglomerular tumor and one with renal adenoma).

We found that most of our patients with renal cell carcinoma were active smokers as shown in table I.

Table I

<i>Smoking</i>	<i>No. of Patients</i>
Mild	10
Moderate	14
Heavy	5
Ex smoker	10
Total	39

Regarding obesity, weight was expressed as body mass index (BMI), (by comparison with normal body weight).

It was found that most of our patients were obese as shown in table II.

Table II

<i>Weight (BMI)</i>	<i>No. of Patients</i>
Normal	10
Over weight	20
Obese	25
Under weight	2
Total	57

We found those with associated renal disease having urinary tract infection as the overwhelming associated factor from history and laboratory investigations, as shown in table III.

Table III

<i>Associated disease</i>	<i>No. of Patients</i>
Urinary tract infection	29
Renal stone	1
No associated disease	27

The number of patients with preexisting high blood pressure was 37 patients, 26 of them were found to be hypertensive during the preparation, as shown in table IV.

Table IV

<i>Blood Pressure</i>	<i>No. of Patients</i>
Normal	20
Newly diagnosed	26
Known Hypertensive	11
Total	57

Regarding secondary cases: 1 from lung, 1 from testis and one involved by

lymphoma. In all of them the kidney was the first metastatic site, and were of big size, unifocal and unilateral.

Histopathologically the majority of patients were of clear cell type, 20 patients with predilection to the upper pole. Although only two cases with von Hippel-Lindau disease, (one female 45 years old and one male 38 years old) have been diagnosed, but the number is high in comparison to the total number.

Discussion

The majority of our patients were from urban than rural areas and this matches with the results of studies done in Korea¹⁵.

In our study renal cell carcinoma was the predominant histopathological type of renal tumors and the majority was of clear cell type, in contrast to other studies^{1,2}. Two were of von Hippel-Lindau disease, followed by Wilm's tumor, then benign tumors. More or less the same results were found in other studies. In our study few nephrectomies have been done for some benign tumors, especially Angiomyolipoma (5 patients with Angiomyolipoma, 2 with Oncocytoma and one with Adenoma). In general, apart from fat-containing lipoma, imaging findings are not conclusive enough to avoid surgery¹⁸.

Regarding Angiomyolipoma, all our patients were without tuberous sclerosis, were usually solitary and of big size. Because of indefinite diagnosis before surgery due to lack of imaging facilities like MRI, during the time of our data collection, and that big tumors carry high percentage of complications, nephrectomy was a good decision.

Oncocytoma in our study were both very big, and even if they were diagnosed preoperatively to be benign, nephrectomy would have been the best chance of cure, because it carries a high risk of malignant transformation².

The data highlight the association of renal cell carcinoma with obesity, smoking, hypertension and associated preexisting kidney disease especially urinary tract infection as in other studies tables^{13,19,20}. High incidence of bilaterality is observed; both cases of von Hippel-Lindau disease had bilateral renal cell carcinoma²¹. Regarding secondaries all were unilateral and neither multifocal nor of small size as it has been found in other studies²².

In conclusion, renal tumor is relatively rare but important. Every urological symptom should be treated with great precaution especially microscopic hematuria in older age groups, which may be an ominous sign of more serious disease, that can be considered as simple irrelevant findings, may also be concluded that the etiology of cancer is almost certainly a complex matter with multiple factors involved. Some of the results have to be studied more and need more explanation, as:

1. Angiomyolipoma were big and without complications and not associated with tuberous sclerosis.
2. Why were most of the tumors on the left side and of clear cell type?
3. High incidence of associated urinary tract disease.
4. We have a high incidence of von Hippel-Lindau disease.
5. Predilections to the upper pole.
6. Why female is predominating?

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