

**Histopathological Study of Renal Tumors at Tertiary Care Centre, Bikaner, Rajasthan.****Ajit Singh¹, Surendra Prakash Vyas², Neelu Gupta³, Lakshya Singh⁴**^{1,4}Resident Doctor ^{2,3}Professor

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Correspondence Author: Ajit Singh, Department of Pathology, Sardar Patel Medical College, Bikaner, India**Type of publication:** Original Research Paper**Conflicts of Interest:** Nil**Abstract**

Background-Renal tumours comprise a diverse spectrum of neoplastic lesions with patterns that are relatively distinct for children and adults. A wide variety of both benign and Malignant tumours arise from different components of the renal parenchyma, notably tubular epithelium. Accurate diagnosis of most renal tumours is not possible before surgery and histopathologic evaluation.

Methods-109 patients from department of Pathology, Sardar Patel Medical College, Bikaner were included in this study. Renal tumors in resected nephrectomy specimens over a period of 5 years from Jan.2013 to Nov. 2017 were studied. Relevant clinical details were collected from record section of the department.

Results- Of the total of 122 renal tumors studied 95 were found to be clear cell type, 5 were granular type & papillary type each, 2 were Angiomyolipoma, 5 were Oncocytoma and 13 were wilms tumour. Most of patients presented in 5th to 6th decade of life with male predominant. Most common presentation in our patients was flank pain.

Conclusion- The most common renal tumour was renal cell carcinoma.

Keywords-Renal tumors, clear cell, Oncocytoma.

Introduction

Renal tumours comprise a diverse spectrum of neoplastic lesions with patterns that are relatively distinct for children and adults.¹ A wide variety of both benign and Malignant tumours arise from different components of the renal parenchyma, notably tubular epithelium.¹⁻⁴ Accurate diagnosis of most renal tumours is not possible before surgery and histopathologic evaluation. Nephrectomy remains the standard of cure for patients with a suspected renal mass, despite studies that have established nephrectomy as an independent risk factor for developing chronic renal insufficiency. Both benign and malignant tumours occur in the kidney. A detailed and meticulous histopathologic examination of tumour nephrectomy specimens is essential to establish histologic type and to record accepted histopathological prognostic determinants i.e. tumour size, histologic subtype, nuclear grade, and stage in cases of malignant renal neoplasms.²

Materials and Methods

The study was conducted in the department of pathology Sardar Patel Medical College, Bikaner, Rajasthan from Jan 2013 to Dec.2017. For this study, the cases of renal tumors were searched from records maintained in the department of Pathology at Sardar Patel Medical College, Bikaner, Rajasthan. The histopathological reports of all such cases diagnosed during the above mentioned period, were collected. The required clinical details were sought

from the medical records department. Name, age, parentage, address and Lab number of patients was checked in the record section of the Department. Corresponding slides were collected and re-evaluated for the confirmation of diagnosis.

Results

Table 1: year wise distribution of renal tumors.

Year	Number of renal biopsy	Total biopsy
2013	19	6071
2014	22	6082
2015	23	7308
2016	28	8483
2017	30	8632
Total	122	36576

Out of total 36576 biopsy, 122 (0.33%) biopsy was in renal region.

Table 2: Age wise distribution of renal tumors

Age group(Yrs)	No. of biopsy	Percentage
0-10	17	13.93
11-20	6	4.92
21-30	3	2.46
31-40	17	13.93
41-50	25	20.49
More than 50	54	44.26
Total	122	100

44.26% biopsy was from more than 50 yrs age group followed by 41-50 Yrs age group(20.49%).

Table 3: Distribution of renal tumors according to histopathological diagnosis

Histopathological diagnosis	No. of biopsy	Percentage
RCC-clear cell type	95	77.87
Granular type	5	4.10
Papillary type	2	1.64
Angiomyolipoma	2	1.64

Oncocytoma	5	4.10
Wilms tumour	13	10.66
Total	122	100

In this table histopathological spectrum of renal tumors observed in our study. Most common 95 (77.87%) renal tumor was renal cell carcinoma followed by wilms tumour (10.66%).

Discussion

Renal tumors constitute a heterogeneous group of neoplasm’s distinguishable histologically and cytogenetically. Classification of renal cell carcinoma is important from the treatment and prognosis point of view as well as for understanding of histogenesis. The kidneys are affected by various types of malignant tumours, 99 percent of renal neoplasms are malignant; Renal Cell Carcinoma and Wilms tumour being the most common⁴. Renal cell carcinoma accounts for approximately 2 percent of adult malignancies and 80 to 85 percent of malignant kidney tumours.⁵ Mean age at diagnosis was generally around 60yr, and the male to female ratio was 3:1.⁶ It is generally believed that about 5% of all kidney cancers occur in patients younger than 40 yr¹¹, whereas there is limited information about the management of RCC in elderly people. It would be expected that renal tumours arising in young adults likely are more symptomatic and potentially aggressive, therefore requiring aggressive radical treatment. On the other hand, because of the widespread use of imaging in elderly people, an increasing number of tumours are being discovered with potentially indolent behaviour.

Vast majority comprised of renal cell carcinoma (77.87%). Histologically, Renal cell carcinoma (RCC)-clear cell type was most common 95 cases(77.87%) followed by wilms tumour 13 cases (10.66%) followed by granular type 5 cases (4.10%) & Oncocytoma type 5 cases(4.10%) followed by angiomyolipoma 2

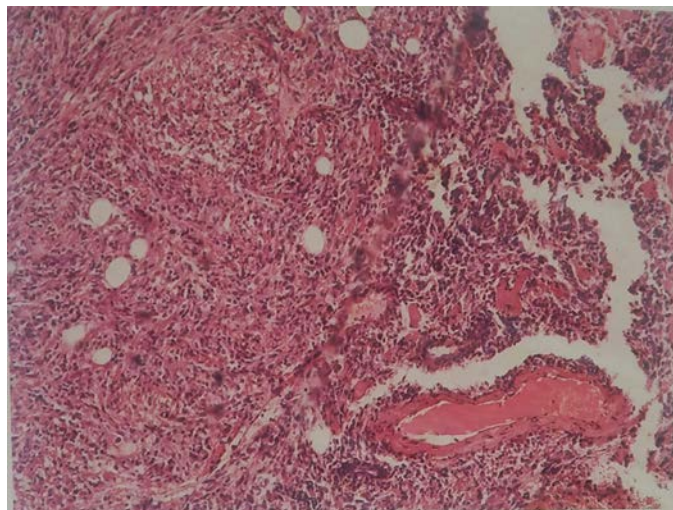
cases(1.64%) and papillary type (1.64%) in our study. This was similar to the observation made by Mohammad Rafique (2007)⁷ who also observed that majority of malignant neoplasms (97%) of the kidney were renal cell carcinoma. Also V Popat et al (2010)⁸12 in their study found that (70%) malignant lesions were accounted for by renal cell carcinoma.

Conclusion

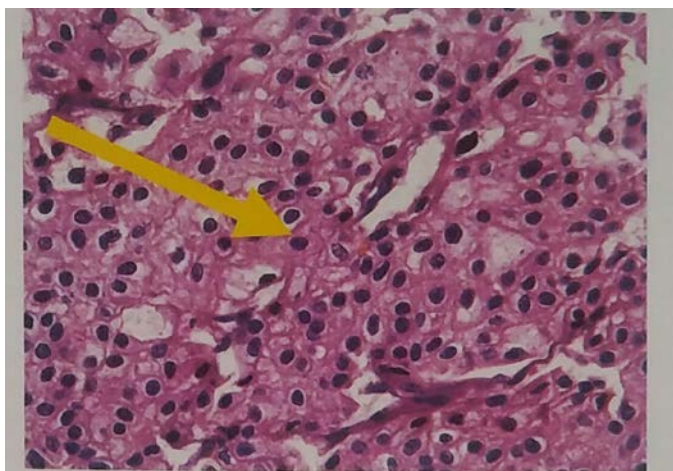
The most common renal tumour was renal cell carcinoma.

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ANGIOMYOLIPOMA TUMOR IS COMPOSED OF ADIPOSE TISSUE, SMOOTH MUSCLES AND BLOOD VESSELS 10X H&E



CHROMOPHOBE RCC SECTION SHOWING FINELLY GRANULAR CYTOPLASM & PERINUCLEAR HALO 40X H&E