



A RETROSPECTIVE HISTOPATHOLOGICAL STUDY OF MALE UROGENITAL LESIONS AT A TERTIARY CARE HOSPITAL IN JHARKHAND

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ABSTRACT Genitourinary lesions are commonly encountered. They include a multitude of congenital, inflammatory, benign and malignant diseases ranging from lipoma to benign prostatic hyperplasia and from nephroblastoma to squamous cell carcinoma. An insight of the pattern of various diseases in relation to site, age, and type of lesion assists in better comprehension of differential diagnosis for histopathologists. **Material & Methods:** A retrospective study of histopathologically diagnosed cases of 49 urogenital lesion patients presenting in a duration of 1 year was undertaken. **Results:** A total 49 cases included 4 children and 45 adults, 42.8% of cases belong to the age group 46 to 60 years. 14 (25%) specimens were from urinary bladder, followed by kidney and prostate 9 cases each (16%). 45% cases were inflammatory/benign, and the rest 55% were malignant lesions. **Conclusion:** Carcinoma urinary bladder was the most common disease diagnosed among all histopathological specimens followed by BPH. Renal cell carcinoma was most common renal malignancy. Germ cell tumors are the most common malignancy of testis.

KEYWORDS : Wilm's tumor, urogenital malignancy, Renal cell carcinoma, urothelial carcinoma of bladder, benign prostatic hyperplasia, germ cell tumors of testis.

INTRODUCTION

Excised specimens from male urogenital system are very common histopathological surgical specimens sent for the definitive diagnosis of various ailments which includes benign, malignant, inflammatory and congenital lesions.

Benign Prostatic Hyperplasia (BPH) is a common ailment in aging men and a common cause of lower urinary tract symptoms. It refers to the presence of stromal-glandular hyperplasia within the prostate gland; this condition, may be associated with bothersome lower urinary tract symptoms (LUTS), anatomic enlargement of the prostate, and a compression of the urethra with compromised urinary flow and bladder outlet obstruction (BOO). The histological prevalence of BPH at autopsy is as high as 50-60% for males in their 60's, increasing to 80-90% of those over 70 years of age.^[1] The prevalence of LUTS increases steadily with increasing age.^[2,3]

Bladder cancer is a disease that afflicts mostly the middle-aged or the elderly people, as the majority of any other cancer type. The median age of diagnosis of bladder urothelial carcinoma is 69 years in males and 71 years in females, but the disease can occur at any age, even in children^[4,5]. Studies provide evidence that p53 gene product overexpression is common in bladder cancer in young patients^[6].

Wilms' tumor (nephroblastoma), an embryonal type of renal cancer, is one of the most common solid malignant neoplasms in children. It accounts for approximately 90% of all paediatric tumors of the kidney.^[7-9] The tumor usually arises in a single kidney. Synchronous bilateral or multifocal tumors occur in approximately 10% of patients and tend to present at an earlier age^[10,11]. Wilms' tumor can also be diagnosed in adolescents or adults, but this is extremely rare, representing less than 1% of all renal tumors^[12]. The usual treatment approach in most patients is a combination of surgery and chemotherapy, with the addition of radiotherapy in high risk patients. This has improved overall survival (OS) for patients with Wilms' tumor in high income countries to greater than 90% for localised disease and 75% for metastatic disease^[13,14].

Penile cancer frequency varies widely in different parts of the world.^[15] There is a relatively high but variable frequency in different parts of India.^[16,17] Squamous cell carcinoma of penis is associated with poor genital hygiene and with high-risk HPV infection. It is seen in patients between 40 to 70 years. Circumcision confers protection, and hence this cancer is extremely rare among Jews and Muslims.

Renal cell carcinoma (RCC) represents 2-3% of all the adult cancers and is amongst the 10th most common cancer worldwide^[18,19]. Major subtypes include clear cell RCC (ccRCC), papillary RCC (pRCC), chromophobe RCC (chRCC), collecting duct RCC and unclassified RCC^[20]. ccRCC is the most common subtype that contributes 75-80% of all the RCC cases and it originates from the proximal epithelium of the nephron^[21].

MATERIAL AND METHODS:

It was a retrospective record-based study, performed in the Department of Pathology, RIMS, Ranchi. Study Population included all male patients whose surgically excised specimen from genitourinary system (including kidneys, ureters, urinary bladder, prostate, penis, scrotum, testis and spermatic cord) was sent to the department of pathology for a duration of 1 year. By using universal sampling method 49 patients were included in the study. Surgically excised specimen were transferred to a jar containing 10% formaldehyde. Histopathological examination of all the specimens was done by routine paraffin wax sections and was stained by Haematoxylin and Eosin (H&E). The epidemiological data in terms of age, type and site of specimen and histopathological findings were compared.

RESULT AND DISCUSSION:

Our present study of 49 cases included surgical specimens from male urogenital system.

Table – 1 Age-wise Incidence

Age group (years)	Number of cases
0-10	3
11-30	5
31-45	9
46-60	21
>60	11
Total	49

Overall mean age of cases was 48 years. 42.8% of cases belong to the age group 46 to 60 years. Youngest patient in our study was 1 year old whereas the oldest patient was 78 years old. Mean age for malignant lesions was found to be 45 years.

Table – 2 Site-wise Distribution Of Cases

Site	Inflammatory/ Benign	Malignant	Total
Kidney	3	6	9

Ureter	2	1	3
Urinary bladder	1	13	14
Prostate	8	1	9
Testis	4	3	7
Penis	2	4	6
Scrotum	1	1	2
Spermatic cord	4	2	6
Total	25	31	56

Maximum number of specimens were from urinary bladder 14 (25%), followed by kidney and prostate 9 cases each (16%) and from testis were 7 (14%) and consisted of 25 inflammatory/benign, and 31 malignant lesions.

Table – 3 Disease-wise Distribution Of Cases

Disease	Number of cases
BPH	8
Adenocarcinoma Prostate	1
Urothelial carcinoma urinary bladder	13
SCC penis	4
Renal cell carcinoma	3
Pyelonephritis	1
Hydroureter	1
Spermatic cord lipoma	3
Germ cell tumor	3
Wilm's tumor	2
Orchitis	2

In our study, urothelial carcinoma of urinary bladder was the most common diagnosis overall for 26.5% cases and average age for urothelial carcinoma in males was found to 55 years. According to Lynch and Walsh, the median age of diagnosis of bladder urothelial carcinoma is 69 years in males.^[4,5]

Out of 18 malignant cases of kidneys, ureters and bladder 13 (72%) were transitional cell carcinoma, 3 (16%) were adenocarcinoma (RCC) and 2 cases (11%) were nephroblastoma. Lynch et al found that in the urinary system, 72.0% were transitional cell carcinomas and 22.0% were adenocarcinomas. Adenocarcinoma was the most common histologic type in the kidney and renal pelvis (also referred to as renal cell carcinoma), whereas transitional cell carcinoma was the most common histologic type in the remainder of the urinary tract.^[4]

16% of all specimens were cases of Benign Prostatic Hyperplasia. Average age for BPH was found to be 64 years. Only one case of adenocarcinoma prostate was found in a 69 year old patient. According to Meigs et al, the most prevalent disease of the prostate is benign prostatic hyperplasia (BPH).^[22]

Squamous cell carcinoma of penis was found in 8% of cases. Average age of diagnosis was 46 years.

Renal cell carcinoma was seen in 3 cases (6%). 2 cases of clear cell RCC and 1 case of chromophobe RCC. Average age of RCC was 46 years.

3 cases of germ cell tumor (6%), 1 case each of seminoma, yolk sac tumor and mixed germ cell tumor. Testicular germ cell tumors (TGCTs) comprise 98% of all testicular malignancies and are the most common type of malignancy in American men age 15–34 years.^[23] 3 cases of spermatic cord lipoma was found with an average age of presentation 43 years.

In our study, Wilm's tumor/nephroblastoma was seen in 2 cases with average age 1.5 years. According to Chu et al it accounts for approximately 90% of all paediatric tumors of the kidney.^[24] Ko et al found that more than 80% of children are diagnosed with Wilm's tumor below the age of five years, and the median age at diagnosis is 3.5 years.^[25]

Inflammatory/benign lesions were less as compared to malignant lesions which can be explained by the assumption that malignant conditions required surgery more often than benign/inflammatory condition which could be managed conservatively.

CONCLUSIONS:

Carcinoma urinary bladder was the most common disease diagnosed

among all histopathological specimens followed by BPH. Other common diseases were SCC penis, Renal cell carcinoma, spermatic cord lipoma. Renal cell carcinoma was most common renal malignancy seen in 60% cases followed by Wilm's tumor which was seen in 40% malignant cases of Kidney. Germ cell tumors are the most common malignancy in testis.

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