
Results of a cancer audit in a single urology unit in Sri Lanka – 2016

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Abstract

Objectives To identify the clinico-pathological profile and primary treatment of urological malignancies treated in the Urology Unit of Colombo South Teaching Hospital, Sri Lanka.

Methods Data related to all newly diagnosed malignancies were recorded prospectively over a period of six months from 1st January 2016 to 30th June 2016.

Results There were 92 malignancies treated. Forty eight were prostate cancers, sixteen were bladder tumours, twenty two were renal tumours, five were upper urinary tract carcinomas and one urachal carcinoma. Metastases were present in 60% of patients with prostate cancer. Nearly half of the bladder cancers were muscle invasive urothelial cancers. Average age at diagnosis of renal cell carcinoma was 58.2 years.

Conclusion Renal cancers in Sri Lanka are diagnosed at an early stage similar to the developed world in contrast to the late diagnosis of prostate and bladder malignancies in Sri Lanka.

Introduction

Malignancies make a significant portion of the non-communicable diseases worldwide as well as in Sri Lanka. Ageing population, high detection rate and increased health awareness have contributed to this rise in some extent. In the absence of a proper national cancer registry, data maintained at individual units or at institutional level are useful to identify epidemiological and demographic patterns. We present the latest results of our prospective audit of malignancies managed in a single urology unit at Colombo South Teaching Hospital.

Methods

A cancer registry was maintained prospectively. Data belonging to all newly diagnosed malignancies were recorded. The data were updated as the patients' follow-up continued in the clinic. The data belonging to patients from 1 January 2016 to 30 June 2016 were analysed. Tumour staging was done using the TNM classification of the Union for International Cancer Control 2009 (1). Approval for the study was obtained from the Ethics Review Committee of the Institute.

Results

A total of 92 urological malignancies were treated at the Urology Unit of Colombo South Teaching Hospital during the first six months of 2016. Table 1 shows the number of malignancies in different organs of the urinary tract.

The commonest cancer seen was prostate carcinoma. There were 22 renal tumours. The commonest (n=18) histological type was clear cell carcinoma (Table 2). Out of the 22 patients with renal tumours, 11 underwent radical nephrectomy and 10 patients had a partial nephrectomy (including the patient with angiomyolipoma) (Table 3). One patient had a large tumour with involvement of IVC and had serious cardiac and pulmonary comorbidities. Hence he was managed with palliative care. There were 18 clear cell carcinomas, one type 1 papillary renal cell carcinoma, one multilocular renal cell carcinoma and one giant angiomyolipoma. Fuhrman grade was one in 2 patients, two in 11 patients, and three in 6 patients. Eight patients with renal carcinoma were found by incidental ultrasonographic scans and six had haematuria at presentation. Four



presented with non-specific abdominal pain and two had felt a mass. The stage distribution of the renal cell carcinoma is given in table 4. The average R.E.N.A.L. nephrometry score of patients who had partial nephrectomy was 6.2 compared to 11.0 among those who had radical nephrectomy. Five patients had postoperative complications which included three Clavien grade 2 and two Clavien grade 1 complications.

There were 16 newly diagnosed bladder cancers. Average age of presentation was 69.1 years and male to female ratio was 7:1. All except one presented with haematuria. The other patient had only dysuria. All patients had their tumours shown in the urinary tract ultrasonography. Fifteen of them were urothelial carcinomas (Table 5). Two of them had squamous differentiation. There was one squamous cell carcinoma. Seven patients (43.8%) had muscle invasive bladder carcinoma (Table 6). There were two pT1 high grade tumours.

There were 48 newly diagnosed prostatic carcinomas during the study period. The average age of patients with prostate cancer was 69.9 years. The tissue diagnosis was made after TURP in one patient, after TRUS guided trans-rectal core biopsy in 45 patients and after trans-rectal digital guided biopsy in one patient. One patient was too ill and had an advanced malignancy. Hence he was treated without a tissue diagnosis. Their serum PSA levels and Gleason scores are given in Table 7. Adenocarcinoma was found in all 47 patients who had a tissue diagnosis. Seven patients had organ confined disease and 10 patients had locally advanced disease, while 31(64.6%) were in the metastatic stage. One patient had radical prostatectomy, 14 had radical radiotherapy and 32 patients underwent androgen deprivation therapy only. One patient opted for surveillance only (Table 7).

Table 1. Distribution of tumours according the site of origin

Organ	Number
Prostate	48
Bladder	16
Renal	22
Upper tract urothelial	5
Urachal	1
Total	92

Table 2. Histopathological types of renal tumours

Tumour types	Number
Renal cell tumours	
Clear cell renal cell carcinoma	18
Multilocular clear cell renal cell carcinoma	1
Papillary renal cell carcinoma type 1	1
Mesenchymal tumours	
Angiomyolipoma	1
Total	21

Table 3. Primary treatment modality of all renal tumours

Treatment	Number
Radical nephrectomy	11
Partial nephrectomy	10
Palliative care only	1
Total	21

Table 4. Pathological stage of renal cell carcinomas after surgery (n=19)

Pathological stage	Number
T _{1a}	6
T _{1b}	4
T ₂	7
T ₃	1
T ₄	1
N _x	18
N ₂	1
Metastatic	1

Table 5. Histopathological types of bladder tumours

Tumour type	Number
Urothelial tumours (n=15)	
Infiltrating urothelial Carcinoma	13
With squamous differentiation	2
Squamous neoplasms (n=1)	
Squamous cell carcinoma	1
Total	16

Table 6. Pathological stage and grade of urothelial carcinomas of bladder

Stage	Number
pT_a (n=4)	
Low grade	3
High grade	1
pT₁ (n=4)	
Low grade	2
High grade	2
≥ pT₂ (n=7)	
Low grade	1
High grade	6
Uncertain	
Total	15

There were five patients with upper urinary tract urothelial carcinoma during the study period. Average age was 62.3 years. Two presented with haematuria while another two presented with abdominal pain. Last patient presented with a neck mass. Two of them were in T₃ stage and one had T₁ stage. One patient was having metastases in liver and cervical lymph nodes. He died of the spreading malignancy before any definitive treatment. Three patients had nephroureterectomy. One

patient with low grade tumour with a compromised contralateral kidney had segmental ureteric resection. All had urothelial carcinomas. Two nephroureterectomies were done using two incisions while the other nephroureterectomy was done using 'endoscopic plucking' combined with a loin incision.

There was one urachal carcinoma in a 41 years old woman which turned out to be a mucinous adenocarcinoma.

Table 7. Characteristics of patients with prostate carcinoma

Variable	Number
Average age (years)	69.9
PSA level (ng/ml)	
<20	10
>20	37
Data not available	1
Mode of diagnosis	
TRUS biopsy	45
Trans-rectal biopsy	1
TURP chips	1
Gleason sum score	
≤6	21
7	9
≥8	15
Data not available	3
Stage of disease	
Localised	7
Locally advanced	10
Metastatic	31
Main modality of therapy	
Radical prostatectomy	1
Radical Radiotherapy	14
ADT only	32
Surveillance	1
Total	48

Discussion

The latest data available from National Cancer Registry of Sri Lanka is for year 2009. According to that, there have been 381 cases of prostate, 311 cases of bladder and 159 cases of renal cancers for the whole country in 2009 (2). This shows a significant increase of bladder and renal malignancies than the previous year while prostate cancers remain static (3). The prostate cancer remains the eighth commonest cancer among men in Sri Lanka while bladder cancer has become the tenth commonest cancer among Sri Lankan men in 2009.

Bladder cancer is generally a disease of the middle age and elderly and the average age of diagnosis was 63.9 years in this study. There is a high male preponderance with a large number having muscle invasive high grade disease. Only one squamous cell carcinoma was seen during the six months period. Primary carcinoma-in-situ of bladder remains a rarity in Sri Lanka with no cases seen in this study (4).

Mean age of presentation of patients with prostate cancer was 69.9 years in our study population and is close to the life expectancy of an average Sri Lankan male (5). Prostate carcinoma continues to be diagnosed at an advanced stage with 60% having metastases in this cohort. However, more Gleason 6 cases have been diagnosed in this study compared to previous reports (6). Changes in pathological evaluation is a possible contributory factor for this difference. The number of patients who would benefit from radical surgery (age less than 65 years, Gleason >7 and PSA less than 10-20 ng/ml) remain a small minority. Lack of PSA as a screening tool could be the reason for this. With availability of serum PSA measurement facilities in state hospitals, this may change in the future.

The mean age at presentation and male to female ratio of renal cancer in our study cohort are different to western data but similar to previous Sri Lankan findings (6). The proportion of partial nephrectomies has risen in line with international standards. Radical nephrectomies have been confined to surgically complex tumours as evidenced by the high average nephrometry score. Renal cancers in Sri Lanka are diagnosed at an early stage similar to developed countries. This is in contrast to prostate and bladder carcinoma.

The results of prospective studies carried out in Urology Units of Sri Lanka appear to be consistent and conforms to a similar pattern than the retrospective studies based on histopathological reports and secondary analyses devoid of the overall clinical picture (8). Hence urological surgeons throughout the country should aim to publish their cancer audits to get a better picture of the urological cancers in Sri Lanka.

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