

## RADICAL CYSTECTOMY FOR LOCALLY ADVANCED CARCINOMA OF THE BLADDER IN KANO, NIGERIA

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**Objective:** Bladder cancer is the second most common genito-urinary malignancy worldwide. The objective of this study was to assess the benefit of radical cystectomy on locally advanced bladder carcinoma in terms of improved quality of life and survival in our environment.

**Patients and Methods:** The records of 58 patients with bladder carcinoma managed at Aminu Kano Teaching Hospital over a 5-year period (May 2000 to April 2005) were reviewed and analysed. Excluded were 28 patients with distant metastatic disease discovered during clinical investigation.

**Results:** Thirty patients (25 males and 5 females) with a mean age of 50.5 years

and variable symptoms underwent radical cystectomy for locally advanced carcinoma of the bladder. Urinary drainage was achieved by orthotopic ileal neobladder in 15 patients (50%), continent cutaneous reservoir in 11 patients (36.7%) and non-continent drainage in 4 patients (13.3%). A 40% survival was achieved at 6-60 months.

**Conclusion:** Radical cystectomy is a worthwhile procedure in locally advanced carcinoma of the bladder and cure may be achieved in selected patients.

**Key Words:** locally advanced bladder carcinoma, cystectomy, quality of life.

### INTRODUCTION

Cancer of the urinary bladder is the second most common genitourinary malignancy worldwide after prostate cancer with 260,000 new cases occurring each year in men and 76,000 in women<sup>1</sup>. There are no reliable data on the incidence of the disease in Sub-Saharan Africa, and presentation is often late due to poverty, ignorance and neglect<sup>2</sup>.

Advanced bladder cancer is associated with severe pain due to infiltration of sacral nerves in the pelvis, bladder outlet and ureteral obstruction leading to obstructive uropathy, anemia and impairment of the quality of life. Patients often present with a palpable suprapubic mass, features of

uremia and cachexia at a stage where they have exhausted their meagre resources on sub-optimal and often questionable treatment, which may well be toxic to already compromised renal function.

Radical cystectomy has been shown to have recognized benefits in locally advanced bladder cancer and can even be curative<sup>3,4</sup>. Although several modalities of treatment are available for locally advanced bladder cancer, surgery remains the gold standard<sup>5</sup>.

We present our experience with radical cystectomy for locally advanced bladder cancer at Aminu Kano Teaching Hospital, Kano, a tertiary health facility in north-western Nigeria over a 5-year period.

Table 1: Tumor Distribution by Sex (n=58).

Histological type	Male	Female	Total	(%)
Squamous Cell Carcinoma	36	2	38	(65.5%)
Transitional Cell Carcinoma	14	3	17	(29.3%)
Adenocarcinoma	3	0	3	(5.2%)
Total	53	5	58	(100%)

## PATIENTS AND METHODS

The records of all patients admitted with bladder cancer between May 2000 and April 2005 were retrieved and reviewed. Relevant data including the patients' bio-data, clinical presentation, investigations, treatment given and follow-up were obtained.

Diagnostic investigations included urine cytology, renal and bladder ultrasound, chest X-ray and cystoscopy with biopsy. Ten patients had intravenous urography following cystoscopic findings of fronds of tumor in the bladder suggestive of transitional cell carcinoma. No other imaging studies of relevance were done, as the patients could not afford them.

The clinical outcome of the procedures performed, including peri-operative complications, were reviewed. Follow-up of the patients in the Urology clinic was effected monthly for 3 months, every 3 months for one year and thereafter 6-monthly. During this period, the patients were examined for local recurrence, metastatic disease and metabolic derangement, and cystoscopy was performed where indicated. Statistical analysis of the results was performed using the SPSS computer software.

## RESULTS

Fifty-eight patients with advanced carcinoma of the bladder were seen between

May 2000 and April 2005 (Table 1), but only 30 of them (25 males and 5 females) with a mean age of 50.5 years (range 16 to 67 years) underwent radical cystectomy and regional lymphadenectomy with urinary diversion. The patients presented with variable symptoms consisting of hematuria in 17 (56.7%), necroturia in 16 (53.3%) and abdominal mass in 14 (46.7%) patients. The duration of the symptoms ranged from 2 to 36 months (mean 10.6 months). Histological examination revealed squamous cell carcinoma (SCC) in 24/30 (80%) resected bladder specimens, 13.3% of them were associated with schistosomiasis.

Bulky tumors with enlarged regional lymph nodes were found in 19 patients (63.3%) but only 13 patients (43.3%) had histologically positive malignant lymph nodes (Table 2).

The intra- and postoperative complications are summarized in Table 3. Although erectile dysfunction is considered to be almost universal in such patients, it was reported by only 2 patients (6.6%).

The mean hospital stay was 31.7 days (range 7-48), which was necessary for continuous bladder irrigation and flushing and in-patient cystography or pouchography. Hospital-related mortality was 3.3% (1 patient) due to deep vein thrombosis and pulmonary embolism on the 7th postoperative day.

Generally, follow-up was poor with a mean follow up of 16.8 months (range 1-60 months)

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**Table 2:** Operative Findings and Surgical Procedures performed.

No of Patients	Tumor Type and its Location in the Bladder	Type of Operation Performed	N+ on Histology
8	SCC bladder neck	- radical cystectomy - continent cutaneous reservoir - regional lymphadenectomy	7
10	SCC posterior or posterior wall	- radical cystectomy - orthotopic ileoneocystoplasty - regional lymphadenectomy	2
1	SCC all walls	- radical cystectomy - ureterostomy - regional lymphadenectomy	0
5	SCC dome	- partial cystectomy - regional lymphadenectomy - augmentation cystoplasty	1
3	TCC all walls	- radical cystectomy - ileal conduit - regional lymphadenectomy	2
3	Adenocarcinoma bladder neck	- radical cystectomy - continent cutaneous reservoir - regional lymphadenectomy	1

SCC: squamous cell carcinoma, TCC: transitional cell carcinoma, N+: positive lymph nodes

**Table 3:** Intra- and Post-Operative Complications and Outcome of Treatment instituted.

	Complications	No. (%)	Treatment	Outcome
<b>Intra-operative</b>	Rectal perforation	1 (3.3%)	Repair + colostomy	Full recovery
	Hypovolemic shock	1 (3.3%)	Fluid resuscitation	Full recovery
<b>Post-operative</b>	Mucous plug obstruction	21 (70.0%)	Regular flush out	Full recovery
	Anastamotic bladder neck breakdown	1 (3.3%)	Repaired	Full recovery
	Deep vein thrombosis	2 (6.6%)	Anticoagulation	Death 1 Full recovery 1
	Mild incontinence of urine	1 (3.3%)	Pelvic floor physiotherapy	Full recovery
	Erectile dysfunction	2 (6.6%)	Vacuum device	No Change

and only 16 patients (53.3%) were either re-admitted (n=4) or reviewed in the outpatient clinic (n=12). Of the re-admitted patients, 1 had pelvic recurrence (transitional cell carcinoma [TCC]) and was referred for radiotherapy while the remaining 3 had widespread metastatic disease (1 TCC, 2

SCC) and died at 6, 10 and 15 months post-operatively. The remaining 12 patients (40%)-7 males and 2 females with SCC, 1 female with TCC and 2 males with adenocarcinoma- had no evidence of recurrence after 36 months of follow-up.



Fig. 1: Continent ileocolonic reservoir with double J stent in the left ureter and cecum.

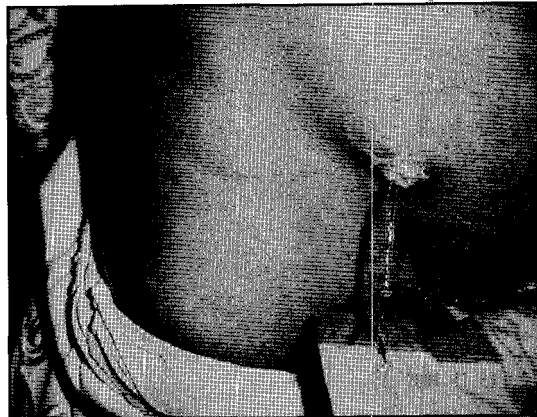


Fig. 2: Cutaneous ureterostomy in a female patient who had RC and cutaneous ureterostomy as a first-stage operation and declined further reconstructive surgery. She used a child diaper cut into pieces to keep the opening as dry as possible as she could not afford a urostomy bag.

## DISCUSSION

Invasive bladder carcinoma is a highly lethal disease with 70-90% mortality over a 3-year period if left untreated<sup>5</sup>. It is a major dilemma to most urologists to find a bulky bladder mass with nodal involvement at laparotomy, but it is known that even without achieving cure the patient's quality of life can be improved by radical cystectomy and pelvic lymphadenectomy<sup>3</sup>.

Most of the cancers in this study were confirmed to be advanced with 43.3% positive regional lymph node involvement. A similar percentage has been reported in other centers in Nigeria<sup>6,7</sup> and is almost twice as high as the European and US findings of 25% lymph node positivity in all patients at surgery<sup>4,8</sup>.

Squamous cell carcinoma (SCC) was the commonest cause of admission (65.5%) in our institution, which is similar to findings in most centers in Nigeria and Egypt, areas with a high prevalence of schistosomiasis<sup>2,7,9-11</sup>, and accounted for 80% of the operated cases in this study. This is in contrast to the findings of Thomas and Onyemenen, who reported TCC in 47.9% and SCC in 46.5% of patients treated in Ibadan, Nigeria<sup>12</sup>.

The choice of the surgical method was determined by the position of the tumor rather than the tumor type, and 15 patients were able to have sphincter-sparing orthotopic neobladder construction, while the remaining patients had either a continent catheterizable reservoir (n=11) or a free-drainage stoma (n=4). This is a reflection of the propensity of bladder cancer to affect the areas in continuous contact with urine and most severely affected by schistosomiasis<sup>2,10</sup>.

Significant post-operative morbidity was seen in 7 patients (23.3%) with one mortality. Our morbidity rate is twice the reported rate of 10% reported by Gough<sup>13</sup>, probably because the patients in this study were in a worse condition at presentation.

The local recurrence rate of 7% seen in our study is comparable to a population-based study in Greater Amsterdam of 7% to 25% in patients with Grade IV tumors<sup>5,14</sup>. However, all the patients in the cited study had TCC, suggesting similar recurrence rates of TCC and SCC following surgery for locally advanced carcinoma<sup>14</sup>.

Six patients (20%) had a 5-year disease-free survival, which is comparable to the results of radical cystectomy for locally

advanced carcinoma reported in European series<sup>15</sup>, and these patients are likely to be cured of the disease<sup>4</sup>. The survival rate of lymph node positive patients that attended follow-up is 20% in our series, which is significantly lower than the 5-year survival of 34% following surgery alone reported by Herr et al.<sup>4</sup>. It is to be noted, however, that our survival rate may not be very accurate due to the large number of patients (53.3%) lost to follow-up, which is due to various reasons like death at home, loss of confidence in the hospital resulting from the failure to guarantee cure, ignorance as well as poverty rendering subsequent treatment unaffordable<sup>2</sup>.

Chemotherapy was not used in this series, as it is not easily available in our environment and most patients cannot afford it. In addition, its efficacy is doubtful, due to the difficult preservation in hot climates. A previous study of chemotherapy for the treatment of SCC reported disappointing results<sup>2</sup>, but the newer cisplatin-based combination of methotrexate, vincristine, adriamycin and cisplatin (MVAC) has been used to downstage tumors from inoperable to resectable in the series of Herr et al.<sup>4</sup>.

Electrolyte disorders were uncommon and mild, and the small risk of neoplastic transformation appears to be the only concern. Most of the patients may not live long enough for neoplastic changes to become a significant long-term morbidity, as this occurs in less than 5% at 10 years, mainly in children with neuropathic bladders<sup>3</sup>. Mild hyperchloremia detected at the follow-up of long surviving patients is treated with oral bicarbonate and citrate salts<sup>3</sup>.

Ureterosigmoidostomy was not considered an option in palliative treatment, as the inevitable metabolic disturbances from the large absorptive surface and ascending urinary tract infections have dire consequences in moribund patients.

The limitations of this study lie in its retrospective nature and inherent incomplete information. It was also not possible to

obtain data on the status of the patients lost to follow-up. None of the patients received chemotherapy, due to its expense and unavailability, therefore we could not ascertain its possible additional benefit in improving survival. Squamous cell carcinoma has a notoriously bad prognosis and is relatively insensitive to radiotherapy. Radiotherapy was used in only one female patient with local recurrence of TCC, with dismal outcome.

The long-term survivors in this study have given us the courage to continue offering appropriate surgical intervention, despite advanced disease at presentation

In conclusion, radical cystectomy for locally advanced bladder carcinoma offers a reasonable survival rate by achieving cure in a substantial number of patients, with acceptable morbidity and mortality. Further studies on treatment using neo-adjuvant or adjuvant chemotherapy that may improve survival needs to be carried out in the region.

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## RESUME

### CYSTECTOMIE RADICALE POUR LE CARCINOME LOCALEMENT AVANCE DE LA VESSIE DANS KANO, NIGERIA

**Objectif :** Le cancer de vessie est la deuxième malignité génito-urinaire commune dans le monde entier. L'objectif de cette étude était d'évaluer l'avantage de la cystectomie radicale sur le carcinome localement avancé de vessie en termes d'amélioration de qualité de vie et de survie dans notre environnement.

**Patients et méthodes :** Les données de 58 patients présentant un carcinome de vessie contrôlés à l'hôpital d'enseignement d'Aminu Kano sur une période de cinq ans ( mai 2000 à avril 2005) ont été passés en revue et analysés. Ont été exclus 28 patients présentant une maladie métastatique découverte pendant le bilan clinique.

**Résultats :** Trente patients (25 hommes et 5 femmes) présentant un âge moyen de 50,5 ans et de symptômes variables ont subi une cystectomie radicale pour un carcinome localement avancé de la vessie. Le drainage urinaire a été réalisé par iléocystoplastie orthotopique chez 15 patients (50%), réservoir continent chez 11 patients (36.7%) et drainage non-continent chez 4 patients (13.3%). Une survie de 40% a été réalisée à 6-60 mois.

**Conclusion :** La cystectomie radicale est un procédé valable dans le carcinome localement avancé de la vessie et le traitement peut être réalisé chez les patients choisis.

**Mots clés :** carcinome localement avancé de vessie, cystectomie, qualité de la vie

**Editorial Comment:**

This is a retrospective review of a small series of radical cystectomy for locally advanced bladder cancer. It is an interesting report highlighting the advanced presentation of the disease in Africa, the high incidence of squamous cell carcinoma, the poverty and illiteracy in the region, the inability to use chemotherapy and the considerable number of patients lost to follow-up. Despite all these negative aspects the authors have done a good job to provide the best service possible to the people of the region.

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