



## COMMON UROLOGIC INTERVENTIONS INVOLVED IN MANAGEMENT OF ADVANCED CANCER CERVIX-3YEAR RETROSPECTIVE STUDY IN A TEACHING HOSPITAL.

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**ABSTRACT** **Introduction:** Over 70% patients with cancer cervix present in advanced stages of the disease with coexisting urological complications like obstructed uropathy.

**Objectives:** To determine clinical profile of patients with urinary complications of advanced cancer cervix and the clinical outcome of the various therapeutic options administered.

**Material and Methods:** 50 patients with advanced cancer cervix previously treated or untreated, who had obstructed uropathy were evaluated to know the type of urological complications, their management and their effect on the primary disease. Simple methods of urinary diversions were tried and the clinical outcomes of these approaches were retrospectively analyzed. Also, 19 cases with post irradiation complications were studied with regards to type of complication and its management.

**Results:** 50% of cases were uraemic at presentation. 49 out of 50 cases (98%) underwent simple urinary diversions. Outcome following urinary diversion procedure was poor, with 30 (61.22%) showing no clinical improvement.

**Conclusion:** Various urinary diversion procedures are useful in improving renal function, followed by definitive treatment options.

**KEYWORDS :** Obstructive uropathy; Advanced cancer, cervix; Urinary diversion.

### Introduction

There is a high prevalence of urological complications among women with advanced cervical cancer, these complications significantly correlate with the stage of cervical cancer. Cervical cancers show locoregional invasion and metastasis.

Tumor persistence or recurrence within the pelvis is the major cause of death in these patients. Patients with advanced or recurrent disease frequently develop infiltration of neighbouring organs like urinary bladder, ureter, intestines resulting in urinary complications including obstruction, fistula formation, uraemia or intestinal obstruction with ileus and fistula formation. The most common presenting symptoms were anuria or oliguria, flank pain, dyspnea, leg edema and body malaise. Urinary complications associated with advanced carcinoma cervix, lead on to uraemia and its debilitating effects pose a threat to the patient's life.

Anatomically, the terminal segment of the ureter is in close proximity to the cervix. So cervical cancer could lead on to initial hyperemia, later on compression or angulation of the ureter due to parametrial involvement. [1] Involvement of the urethra, abdominal portions of the ureters and the kidneys is usually a secondary phenomenon, either due to infiltrating malignancy or back pressure changes. [1] Patients can present clinically with incontinence of urine, dribbling of urine due to vesicovaginal, ureterovaginal or rectovaginal fistulae leading on to uraemia, lower urinary tract obstruction progressing to bilateral hydronephrosis, bilateral limb edema, recurrent urinary tract infections, bladder calculus, haematuria, pyuria, atonic bladder function and so on. [1]

A few patients do develop urinary complications following radiation therapy. These complications tend to occur 6-18 months after radiation therapy. Tissue injury can lead to direct mucosal necrosis, submucosal fibrosis, regional devascularization, ischaemia and fibrosis of surrounding connective tissue leading to fistula formation, ureteral stricture, periurethral fibrosis with secondary obstruction and contracted bladder.

### Material and Methods

This study was conducted at the Department of Urology, Govt. General Hospital, attached to Kurnool Medical College, Kurnool, Andhra Pradesh, during a 3 year period (Jan 2016-Dec 2018).

A retrospective analysis of clinical records of in-patients with a primary diagnosis of advanced cancer cervix treated or untreated with

coexistent obstructive uropathy were retrieved. A total of 69 patients were included in the study.

### Inclusion Criteria

Women with advanced cancer cervix (by FIGO staging) treated or untreated with urological complications were included. Abnormal renal parameters. Structural abnormality on radiological investigations. Urinary symptoms with or without Cases with post irradiation complications.

### Methodology

A total of 50 cases of advanced cancer cervix patients were evaluated. Proper history regarding duration of disease, treatment taken in the form of surgery, chemotherapy or radiotherapy was elicited in detail. Patients were examined clinically for general condition, stage of disease, recurrent or residual disease as well as for any fistula formation. Patients were then investigated with urine analysis, renal function tests, complete blood count, X-ray chest, ultrasonography of abdomen and pelvis to look for hydronephrosis, hydroureter and measure the tumor volume. Special investigations for urinary system evaluation were done as relevant, e.g. Intravenous pyelography, cystoscopy, CT scan.

Various treatment options were discussed with the attenders and then an informed consent was taken. Ureteral stenting, urinary diversion by percutaneous nephrostomy, would then be decided depending on the clinical presentation and patient's condition. Following this, a few patients underwent definitive treatment. A small number of patients required dialysis following a ureteral stenting.

### Results

The different types and incidence of malignancy, laterality of ureteral obstruction, various urinary diversions used and the therapeutic outcome of each were summarized and tabulated. The cause of death of the patients who died after diversion were also noted. Finally, the complications encountered were analysed.

A total of 50 patients had metastatic ureteral obstruction. The mean age of patients in the study group was 30-65 years and urological complications were commonest in the 41-45 years age group (28%). Of these 50 patients, 25 (50%) were uraemic at the time of presentation and 25 (50%) had no uraemia on investigations. Majority of the patients 35 (70%) belonged to stage IIIB, (FIGO staging carcinoma cervix) while 11 (22%) were in stage IV and 4 (8%) belonged to stage II B.

**Table 1: Stage-wise, Age-wise distribution of cases**

Age In years	StageII new cases	StageII recurrent	StageIII new cases	StageIII recurrent	StageIV New cases	StageIV recurrent
31-35	0	0	1	0	1	0
36-40	1	0	3	0	2	1
41-45	0	1	6	3	2	1
46-50	1	0	7	2	1	1
51-55	0	0	3	4	0	0
56-60	0	1	1	4	1	1
61-65	0	0	0	1	0	0

The most common presenting symptoms were anuria or oliguria, flank pain, dyspnea and leg edema and body malaise. The mean admitting creatinine level was 6.2mg/dl. Patients diagnosed for the first time simultaneous with obstructive uropathy at admission were 31 (62%), while 19 (38%) cases were previously diagnosed cases who had received some form of treatment, be it surgery, radiotherapy or both. About 46 cases (92%) and 4 cases (8%) had bilateral and unilateral obstruction respectively.

**Table 2 : Distribution of cases of HDUN among newly diagnosed cases and recurrent cancers.**

Laterality	Newly diagnosed	Recurrent	Total
Bilateral HDUN	30	11	41(82%)
Unilateral HDUN	4	5	9(18%)
Total	34	16	50

#### Urinary Diversions

Of the 50 patients, 49 (98%) underwent urinary diversion one patient was not diverted as they were not willing to undergo any kind of procedure. A preliminary cystoscopy with stenting was done in 32 (65.3%) of the total 50 cases, 17 (35%) underwent percutaneous nephrostomy. Of these patients, 5 (29.4%) had bilateral insertion and 12 (70.6%) had unilateral insertion. For patients on percutaneous nephrostomy, antegrade stenting was done after 4-6 weeks and was successful in 6 (40%).

Of the 25 patients who presented with uraemic signs 15 (60%) needed dialysis support as they had signs of uraemia, pulmonary congestion, hyperkalemic or encephalopathy.

**Table 3: Different kinds of interventions.**

Procedure	Newly diagnosed cases	Recurrent cancers	Total
Bilateral Stenting	5(17%)	3(16%)	8
Unilateral Stenting	10(33.33%)	14(74%)	24
PCN	15(50%)	2(10%)	17
Total	30	19	49

Of the 49 patients who underwent some form of urinary diversion procedure, only one patient (2.04%) needed dialysis support in the postoperative period. On comparing the outcome, a total of 25 (50%) had clinical improvement, while 25 (50%) had no clinical improvement and later 21 (42%) succumbed to death. Clinical improvement was manifested by good urine output from the nephrostomy tubes, decreasing creatinine levels and overall subjective relief of symptoms like loss of flank pain etc. Among the 49 patients about 35 (71.32%) patients with obstructed uropathy were treated by urinary diversion procedure later received radiotherapy or chemotherapy and those unwilling for any definitive treatment just received symptomatic palliative treatment. Various Causes of Death Considering the 21 patients who died following urinary diversion, 8 patients (38%) died of multiple organ failure secondary to complications of metastatic disease to the liver, lungs, mediastinum and intraabdominal carcinomatosis, of which 13 (62%) died of septicemia.

Complications of Urinary Diversion Of those who underwent percutaneous nephrostomy (n= 17) dislodgement occurred in 1 (6%), urinoma in 1 case (6%), leak in 1 (6%) clogging in 1 (6%), sepsis in 1 case (1%), fistulae and stone formation in 1 case (1%), incontinence in 1 (6%), hydronephrosis and renal unit loss.

Out of 19 patients with post irradiation complications, 5 were cases with bladder outlet obstruction who presented with retention of urine

and bilateral HDUN in renal failure. They were treated with urethral dilatation and continuous bladder drainage. Follow up dialysis were done with good improvement. Out of 2 cases of VVF which were repaired, one had recurrent fistula. One out of 4 cases of ureteral stricture which presented 8 years post radiation underwent ureteral reimplantation. 5 cases of vesical calculus with urethral stenosis underwent cystolithotomy and followed up with urethral dilatation. Preoperative dialysis was done in patients with hyperkalemia and pulmonary edema. There were 3 cases of radiation cystitis who presented with hematuria, managed with clot evacuation, fulguration and intravesical silver nitrate instillation.

**Table 4 : Distribution of cases with postirradiation complications.**

Complication	Number
Ureteric stricture	4
Bladder outlet obstruction	5
Radiation cystitis	3
Vesicovaginal fistula	2
Vesical calculus	5

#### Discussion

Cervical carcinoma is the commonest genital malignancy in our country. Lack of proper screening procedures, poor literacy and ignorance do contribute to the delay in diagnosis of cancer cervix. Stage of the disease does play an important role, Stage IIB onwards risk of urological involvement definitely increases and various authors have found that advanced stage of the disease was significantly associated with urological complications. [3] 46 cases (92%) had bilateral involvement, as compared to Benito et al [2], 4(8%) of cases had bilateral involvement.

In our study, urological complications were common in the 40-45 years of age group, as similar results are reported by Prajapati et al. [5] About 50% of patients had uraemia at the time of presentation as compared to Atuhairwe et al, who had a 17% incidence of uraemia. [4] A total of 49(98%) underwent form of urinary diversion procedures, like 32 patients (65%) underwent retrograde DJ stenting, 17 (35%) had percutaneous nephrostomy and 8 (16.3%) of them benefited with bilateral stenting. Hyppolite et al [6] in his study found bilateral nephrostomy superior to unilateral nephrostomy. Although the various procedures help in improving the quality of life of the patients, allowing them to be eligible for subsequent definitive treatment and prolonging life. Palliative diversion should be the choice only after a reasonable expectation of prolonged survival is judged to be feasible.

#### Conclusion

Advanced cancer of the cervix is commonly associated with a high prevalence of urological complications leading on to obstructed uropathy with uraemia with risk of impending irreversible renal damage. Urinary diversion procedures help in improving the renal function and the quality of life for the patient.

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