ORIGINAL PROF-502

ADVANCED CARCINOMA PROSTATE ;
MANAGEMENT OF BILATERAL URETERIC OBSTRUCTION AND RENAL FAILURE

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ABSTRACT

Bilateral ureteric obstruction and renal failure in advanced prostatic cancer is a rare event. In this study, eleven men with advanced carcinoma of prostate and having bilateral ureteric obstruction and renal failure were studied. Group A patients were newly diagnosed and had no previous hormonal manipulation while Group B patients had previous orchidectomy done. Group A patients underwent bilateral orchidectomy done as a definitive treatment in addition to some form of urinary diversion as required. Group B patients had dialysis, upper urinary diversion and ureteroneocystostomy. Patients of carcinoma prostate with bilateral ureteral obstruction and renal failure who had no previous hormonal manipulation had better survival as compared to those who had previous hormonal manipulation.

INTRODUCTION

Prostatic carcinoma is the third common malignancy in men in England and Wales, with approximately 10,000 new patients registered and over 8000 cancer related deaths each year[1]. The exact incidence of prostatic cancer in our country is not known. More than half the patients will have either locally advanced disease and/or metastatic disease at presentation and are unsuitable for curative surgical treatment[2]. Ureteral obstruction is one of the most common secondary manifestations of advanced prostate cancer and the incidence varies from 2 to 51% possibly in part due to the size of the population studied or the diagnostic methods used[3]. Renal failure secondary to bilateral ureteric obstruction from prostatic carcinoma is rare in such patients. Many clinicians have attempted a temporary urinary diversion to improve renal function while allowing definitive treatment, usually some form of hormonal manipulation to take its effect[4]. The purpose of this study was to look into the effect of upper urinary tract decompression on the prognosis of renal failure secondary to bilateral ureteric obstruction in prostate cancer and also see the effect of hormonal manipulation on the overall survival of such patients.

PATIENTS AND METHODS

Between July 1991 and Dec 1999, 11 men (median age 68 years) with advanced prostatic carcinoma were studied. Inclusion criteria were ;

1. A histological diagnosis of prostatic carcinoma
2. Serum creatinine 1.5 mg % or above
3. Positive sonographic and/or CT evidence of bilateral ureteric obstruction and
4. No evidence of lower tract obstruction.

Patients with medical renal disease, diabetes, renal stones were excluded from the study. Four of the 11 patients were newly diagnosed and untreated (Group A) while 7 patients had hormonal manipulation done previously in the form of bilateral orchidectomy (Group B). Serum creatinine ranged from 5mg to 12mg% (median 6.06mg%). All patients had clinical signs of uraemia with oliguria or anuria, while three patients in group B had fluid overload and heart failure. Prostate Specific Antigen(PSA) was raised above normal in all patients (average 29ug/ml). All patients had sonographic and in addition two patients had a positive CT evidence of bilateral upper urinary tract obstruction. In the newly presenting patients (ie group A), the diagnosis was established by trans-rectal prostatic biopsy using Bard monopty needle. T category of the tumours (ie anatomical extent of the tumor) and histological differentiation was defined and is shown in table 1. One patient in Group A and five patients in Group B had positive evidence of distant metastases. Five patients with severe renal impairment were dialyzed (total 9 sesions) to improve their clinical condition. Two of the three patients who were in CCF had died before being diverted. Total bilateral orchidectomy was carried out in the newly diagnosed patients as the definitive treatment. Upper urinary tract diversion was carried out in 9 patients in both groups in the form of per-cutaneous nephrostomy (PCN) in 4 patients, Stents in 2, Ureteroneocystostomy in 2 and "T" tube insertion in one patient (table 2).

Table 1

"T" Category of tumor	T1	-
	T2	1
	T3	6
	T4	4
Histological differentiation	Well differentiated	1
	Moderately differentiated	4
	Poorly differentiated	6

Table 2

Type of urinary diversion done	Group A	Group B
Per-cutaneous nephrostomy (PCN)	2	2
J-J Stenting	-	2
Ureteroneocystostomy	2	-
"T" tube insertion	-	1

*Two patients in group B who were in CCF died before being diverted.

RESULTS

Seven patients (77%) with renal impairment had an adequate return of renal function following urinary diversion. Of the 5 patients in group B (those who had orchidectomy carried out before ureteric obstruction and tumor had escaped hormonal control), 2(40%) patients survived at 1 year and none of the patients was alive at 2 years follow up. Of the 4 patients in group A (ie with no previous hormonal manipulation) and in whom bilateral orchidectomy was carried out after ureteric obstruction, 3 (75%) patients survived at 1 year and

2 (50%) were alive at 2 years.

DISCUSSION

A significant number of patients with prostatic carcinoma present with advanced disease. Ureteral obstruction and renal failure in such patients is a rare event. The mechanism of ureteric obstruction can be elevation of trigone with indirect obstruction to the flow of urine, direct compression of the vesicoureteric junction by the tumor tissue, compression of the ureter by enlarged metastatic lymph nodes or intraluminal metastatic deposits[5]. Michigan & Catalona[6] found that tumor stage and grade has no influence on the incidence of ureteric obstruction. In the present study the tumor was well differentiated in 9% patients, moderately differentiated in 36% and poorly differentiated in 54% patients.

Traditional definitive treatment of ureteric obstruction consists of some form of hormonal manipulation and radiotherapy. Surgical relief of obstruction in these patients includes ureteral reimplantation, ileal loop diversion and cutaneous ureterostomy[5]. The introduction of ultrasonically guided per-cutaneous nephrostomy or ureteric stents insertion via cystoscopy has facilitated urinary diversion so that the procedure is applicable even in patients with poor general condition[3]. In two different studies following per-cutaneous nephrostomy, renal function improved significantly in 75% patients with sever renal impairment secondary to ureteric obstruction associated with prostatic carcinoma[7,8]. In the present study renal function improved significantly in 7 patients (77%) following various forms of urinary diversion (PCN 4 JJ Stents 2, ureteroneocystostomy 2 and "T" tube insertion in one patient).

In the present study those patients who presented with renal failure with no previous hormonal manipulation, bilateral orchidectomy was carried out for androgen deprivation. We choose this form of hormonal manipulation as bilateral orchidectomy remains at present, the most simple, the quick and least expensive form of testosterone suppression and also bilateral orchidectomy has survived all attempts to introduce pharmacological alternatives[9].

Studies have shown that the patients who had not received hormonal manipulation before ureteric obstruction can be expected to have improved survival following upper tract decompression and hormonal manipulation. Chiou et al reported 1 & 2 year survivals of 73% and 47% respectively in patients with bilateral ureteric obstruction secondary to prostatic carcinoma with no previous hormonal manipulation while the survival in patients with previous hormonal manipulation was 48% and 19% at 1 and 2 years respectively. Dowling et al[10] reported a median survival of 4 months in 22 patients with hormone refractory prostatic carcinoma who underwent per-cutaneous nephrostomy insertion for obstructive renal failure. In the present study 1 and 2 years survival rates were 75% and 50% respectively in patients who previously had no hormonal manipulation while those who had bilateral orchidectomy done previously, 1 year survival was 40% and none of the patients survived at two years.

This study shows that patients with carcinoma prostate with bilateral ureteric obstruction and renal failure with previous hormonal manipulation have poor prognosis despite urinary diversion and it seems that urinary diversion should be reserved for patients who have not received hormone therapy.

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