



Original Article

Pattern of Presentations and Management of Complications of Metastatic Carcinoma Prostate in Underdeveloped Country

Naqib Ullah¹, Qaiser Khan², Shaman Ahmad³, Tauheed Fareed⁴, Mati Ur Rehman⁴, Mehboob ul Wahab³¹Department of Urology, Rehman Medical Institute, Peshawar, Pakistan²Department of Urology, Kohat Medical College, Kohat, Pakistan³Department of Urology, Institute of Kidney Diseases, Peshawar, Pakistan⁴Department of Urology, Pak International Medical College, Peshawar, Pakistan

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*Corresponding Author:

Naqib Ullah

Department of Urology, Rehman Medical Institute, Peshawar, Pakistan

naqibullah009@yahoo.com

ABSTRACT

Prostate carcinoma may be symptomatic or asymptomatic and its treatment depends on the stage of disease. **Objective:** To share our experience of presentations and management of metastatic carcinoma prostate and its complications in tertiary care hospital in underdeveloped country. **Methods:** This is retrospective study conducted in institute of kidney diseases Peshawar from January 2017 to December 2020. Patients were sampled through non probability randomized method mode of presentation, diagnosis and management of metastatic carcinoma prostate complications were evaluated and analyzed. **Results:** There were 80 patients in the study, 63 patients opted for medical castration while in 17 patients bilateral orchidectomies done for androgen blockade. Docetaxil added long with ADT for androgen blockade in 12 patients who were labeled castrate resistant. 12 patients present with urinary retention and channel TURP performed on them and 2 patients have hematuria due to mets in urinary bladder and 4 patients have skeletal metastasis and were managed in respective department. **Conclusion:** This study concludes that in under developed countries like Pakistan mostly patients of carcinoma prostate present in metastatic stage with multiple complications and most of complications can be managed in urology department in close collaboration with other specialized units.

INTRODUCTION

Carcinoma prostate is second most common malignant cancer in male population after lung cancer with an estimated 1.1 million diagnosed worldwide in 2012, accounting for 15% of all cancers diagnosed [1]. The incidence of carcinoma prostate diagnosis varies widely between different geographical areas being highest in Australia/New Zealand and Northern America per 100,000 of 111.6 and 97.2 respectively. The incidence is low in Eastern and South Central Asia per 100,000 of 10.5 and 4.5 respectively. Among all cancer the prevalence of carcinoma prostate is increasing with age and about 36% male would have carcinoma prostate at the age of 80 years [2]. Screening program and incidentally diagnosis of carcinoma patient with evaluation of lower urinary tract symptoms has resulted in diagnosis of the disease in early stage and over treatment of the disease in developed

countries but in underdeveloped countries like Pakistan mostly patients present in metastatic stage with multiple complications due to lack of basic health facilities and health awareness [3]. Although most men with carcinoma prostate have asymptomatic disease and often present in advanced metastatic stage with wide variety of complications like CNS involvement, bone fracture, lower urinary tract symptoms, urinary retention, refractory bone pain, hematuria, uremic symptoms and bowel obstruction. CNS involvement may present with back pain caused by spinal cord compression resulting from bone metastasis via paravertebral venous plexus or less commonly hematogenous spread of carcinoma prostate mets to brain. Hematuria may occur due to co existence of benign prostatic hypertrophy or mets to urinary bladder. Prostatic cancer can present with uremic symptoms due to

involvement of lower ureteric orifices resulting in obstructive uropathy or bowel obstruction due to extension of mets to rectum [4]. The treatment of ca prostate depends upon the stage and grade of the disease i.e. active surveillance, watch full waiting, radical prostatectomy or radical radiotherapy or just palliative treatment in metastatic stage. Lei Liu et al in their retrospective study conducted between November 2007 and January 2015 on 16 patients, 12 of them presented with urinary retention and 4 with large post void residual volume along with hydro nephrosis all underwent pTURP and diagnosed as advanced carcinoma prostate. Postoperatively symptoms of all patients improved, average post void residual volume get lowered to about 23ml from 144ml and urinary flow rate improved from 3.1ml/sec to 10.1ml/sec. They have reported that despite less resected tissue, greater delay in urination and reoperation rates, pTURP is a fairly effective procedure in patients with severe BOO secondary due to carcinoma prostate [5]. The objective of our study is to know the mode of presentation and management of complications prostate cancer in tertiary care hospital.

METHODS

Patients with complaints of LUTs were evaluated in urology opd in detail with pertinent history, International prostate symptoms scoring (IPSS), did relevant clinical examination and PR examination for anal tone integrity, prostate size, nodules, consistency of the gland. Before TRUS guided biopsy we do MRI pelvis with contrast to know exactly the location of nodules in prostate and extra prostatic extension of the disease, finally after these investigations we perform bone scan, CT chest, abdomen and pelvis for metastatic work up. After all this diagnostic and staging workup patients discussed in tumor board and counseled for various treatment options depend upon their disease stage and performance status. After approval from the ethical committee of institute of kidney diseases Hayatabad medical complex Peshawar medical record of forty patients presented, diagnosed and managed for carcinoma prostate from January 2017 to December 2019 were retrospectively analyzed from hospital data section. Patients were sampled through non probability randomized method all patients were discussed in multidisciplinary team for evaluation and management. Pertinent history including IPSS taken DRE findings ,serum PSA , TRUS guided biopsy of prostate ,MRI pelvis with contrast, treatment modalities and outcome after treatment including follow up were analyzed. The patient characteristics were added to the Microsoft excel sheet, descriptive analysis was done using Microsoft 210 version. Quantitative data were reported as mean and standard

deviation while qualitative data was reported as frequency and percentage.

RESULTS

80 patients were evaluated and managed for metastatic carcinoma prostate within study period of 3 years from January 2017 to December 2019, age ranges from 59 years to 77 years (average 68 ± 9 years). Prostate size ranges from 38gm to 110gm, PSA ranges from 40ng/dl to greater than 100ng/dl. 50%(n=40) of patients presented with LUTs, 40% (n=32) patients has nonspecific symptoms, 2.5%(n=2) patients with hematuria, 2.5%(n=2) with uremic symptoms and 2.5% (n =2) patients referred from orthopedic department for neck of femur fracture management as shown in table 1. All patients were diagnosed as metastatic carcinoma prostate based on serum PSA, TRUS guided biopsy, MRI pelvis and bone scan. 17 patients has opted for surgical castration while 63 has started on medical therapy for castration. 12 patients among metastatic ca prostate were labeled as castrate resistant prostate cancer (CRPC) and additionally treated with docetoxil. During follow up visits of metastatic ca prostate 12 patients presented with acute urinary retention and planned for channel TURP, 2 patients has hematuria and upon evaluation they diagnosed to have mets in urinary bladder and undergone TURBT, two patients has spinal cord compression and referred to spine unit for spinal cord fixation. Four patients have refractory bony pain referred for focal radiotherapy and one patient presented to emergency department with neck of femur fracture as shown in table 2.

Variable	Value
Age	68±9 years
Prostate size	48±12g
PSA	
50 –100ng/dl	13.7%(n=11)
Greater than 100ng/dl	86.2%(n=69)
Body mass index	28.3±4 kg/m ²
Symptoms	
LUTs	50%(40)
Bone pain	40%(32)
Hematuria	2.5%(2)
Fracture	2.5%(2)
Uremic symptoms	2.5%(2)
Type of castration	78.7%
Medical castration	(n=63)
Surgical castration	21.2%(n=17)

Table 1: Demographics of patients in the study sample

S/No	Complications of mets ca prostate	Management of complications	%(n=no of patients)
1.	Urinary retention	Channel TURP	21.4%(12)
2.	Hematuria {bladder mets}	TURBT	3.5%(2)
3.	Spinal cord compression	Spinal fixation in spine unit	3.5% (2)
4.	Neck of femur fracture	Hemiarthroplasty	1.7% (1)
5.	Refractory bone pain	Referred for radiotherapy	7%(4)
6.	Uremic symptoms	Bilateral nephrostomies	3.5%(2)
7.	Castrate resistant ca prostate	Docetoxil 50 mg OD with prednisolone	14%(12)

Table 2: Complication of metastatic carcinoma prostate and its management

DISCUSSION

Carcinoma prostate is second most common malignant tumor in old age and its presentation in underdeveloped countries including Pakistan is mostly in advance stage due lack of health resources, awareness and accessibility to health care facility so it is diagnosed mostly incidentally while assessing and treating patients for benign conditions like BPH or in advance stage with multiple complications [6]. Metastasis occur when tumor cells spread from one site to other either through blood, lymph or directly involving the adjacent structures. The most common site of metastasis is long bones and spine and metastasis to bones can lead to severe pain, fractures in the bones, stiffness in the hip, thighs or back. Carcinoma prostate is classified as D'Amico localized, locally advance and metastatic ca prostate depend upon serum PSA level, TRUS guided biopsy report, MRI pelvis and bone scan [7]. Treatment of metastatic carcinoma prostate is mainly androgen blockade which can be surgical or medical. It reduces size of prostate by reducing the level of testosterone in blood which is key factor for growth of prostate [8]. Patients with metastatic ca prostate were given the options of surgical and medical castration depending upon their socio-economic status [9]. Surgical castration is cost effective but due to risk of psychological distress mostly patient opt for medical castration [17]. Patients in our sample opted for surgical castration and 63 patients were medically castrated with monthly injection of leuprolide 2.6mg along with casodex 2 weeks before ADT to prevent flare up phenomenon [10, 11]. Twelve patients were labeled as castrate resistant ca prostate due increase in serum PSA and worsening of symptoms despite that their serum testosterone level was lower than 50ng/dl, so they were given additional treatment with docetoxil and prednisolone as shown table 2 [12]. 12 patient during follow up had urinary retention so they were treated with channel TURP, four patients had severe bone pain and were

resistant to medical therapy referred to focal radiotherapy [13, 14]. Two patients had hematuria due to mets to urinary bladder for that palliative TURBT have been done, two patients have deranged RFTS due involvement of lower ureteric orifices so they were discussed with nephrology department and bilateral PCN were put in as shown in table 2 [15, 16]. Brian J William et al in their retrospective study conducted between 1993 to 2005 at a single institution on forty four patients who developed spinal metastasis due to prostate cancer, total 47 procedures performed for spinal fixation and decompression, 24 patients already had received external beam radiation to the site of spinal metastasis. They have reported that in selected patients with metastasis to spine, aggressive surgical decompression and spinal reconstruction is a useful treatment option, and result in decrease use of narcotics analgesics and improvement in neurological symptoms [17]. Ofer N. Gofrit et al in their study conducted between 1991 to 2011 on 81 men who were diagnosed as carcinoma prostate and having hematuria during their follow up period, they have concluded that after radical prostatectomy hematuria is rarely due to ca prostate, it can be due urinary bladder transitional cell cancer or infection and in those patients who have carcinoma prostate and not operated yet hematuria can be due carcinoma prostate itself. Transurethral surgery is very effective in alleviating hematuria and it may not prolong the long term survival of the patient [18]. Upon recommendation of STAMPEDE and CHARRTED trail along with ADT blockade novel agents like enzalutamide or docetoxil or abiraterone has been added in treatment of metastatic carcinoma prostate for alleviating symptoms results and increasing the survival of patients.

CONCLUSION

This study concludes that in under developed countries like Pakistan mostly patients of carcinoma prostate present in metastatic stage with multiple complications.

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