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Orchidectomy as the Primary Therapy in Patients with Advanced Carcinoma of the Prostate: A Ten Year Experience in Maiduguri North Eastern Nigeria

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Abstract

Background: Prostate cancer is one of the commonest malignancies affecting males. Hormonal manipulation offers the best treatment for advanced disease. In developing countries orchidectomy provides simple and cost effective option.

Patients and Methods: The study reviewed all patients with advanced carcinoma of the prostate managed between January 2004 and December 2013. All patients had orchidectomy. Patients with castration – resistant disease were offered anti-androgens.

Results: A total of 222 patients were studied age ranged from 45 to 90 years, with mean age of 67.5 years. The mean PSA was 34.8ng/ml with a range of 21 to 127ng/ml at presentation. Complications at presentation were impaired renal function 24.32% and paraplegia 13.06%. Locally advanced diseases were in 66.67%. Metastatic diseases were in 33.33%. Orchidectomy conferred tumour regression with clinical improvement from 48 hours to 24 months with a mean of 18 months. The median overall survival was 30 months with a 5 year survival of 13.06%. Disease progression despite orchidectomy was seen in 4.05%. Castration resistance (escape phenomenon) begun to develop 18 months post orchidectomy evidenced by rising PSA from castrate level (nadir PSA), and or clinical symptoms. Nadir PSA mean was 8.7ng/ml. A total of 48.20% had PSA nadir of <4ng/ml.

Conclusion: Carcinoma of the prostate is a common disease often with patients presenting late with advanced disease associated with complications. Orchidectomy offers time – tested benefits, it is simple, acceptable, and cost effective.

Keywords: Orchidectomy, Primary therapy, advanced prostate carcinoma, Management outcome.

1. Introduction

Globally prostate cancer is the second most common malignancy affecting elderly men. In developed countries because of screening policy and general awareness prostate cancer (PCa) is detected early with prospect of cure, whereas in developing countries late presentations with advanced diseases associated with complications is the norm ^[1], therefore palliative treatment remained the only hope. Hormonal palliation by way of orchidectomy ^[2] as a primary treatment offers the simplest, safe, and cost-effective modality. In 1941 Huggins and Hodges demonstrated control of prostate cancer growth rate by androgens and showed that there is no better way to achieve temporary control of prostate cancer growth than androgen deprivation (AD) ^[3]. Basically, AD treatment is able to induce a remission in 90% of PCa patients; the median progression – free survival ranges from 18 to 34 months ^[4]. Other forms of androgen deprivation include the use of LHRH agonist ^[5-6] such as goserelin, and buserelin as a primary medical castration. In developing countries these drugs are either not readily available or unaffordable ^[7], making orchidectomy a formidable option. This study reviewed our experience with orchidectomy as primary hormonal therapy in advanced carcinoma of the prostate.

2. Patients and Methods

The study reviewed all patients with advanced carcinoma of the prostate between January 2004 and December 2013. Permission for the study was granted by the Hospital Ethics and Research Committee. Information was extracted from clinical and laboratory notes and data Analyzed using SPSS version 16. Emergency presentations were resuscitated with

antibiotics, intravenous fluids, analgesics, and blood transfusion where necessary. The investigations carried out were full blood count, blood chemistry, chest x- ray, limited skeletal survey, abdominopelvic ultrasound scan, and urinalysis. Others were prostate specific antigen (PSA), prostatic acid phosphatase, Trucut biopsy of the prostate, and electrocardiogram. All patients had orchidectomy either as subcapsular or total under anesthesia. Patient were followed up with clinical and laboratory evaluations. In the course of follow up patients with castration - resistant disease (disease progression) were offered anti-androgens such as flutamide, and bicalutamide. Other treatments offered were bisphosphonates and steroids.

3. Results

A total of 222 were studied age ranged from 45 to 90 years, with a mean age of 67.5 years table 1. The mean PSA was 34.8ng/ml with a range of 21 to 127ng/ml at presentation. Complications at presentation were impaired renal function, and paraplegia table 2. Locally advanced diseases were in 148(66.67%), involving urethra, bladder, rectum, pelvic wall, perineum, and sacrum. Metastatic diseases were in 74(33.33%), comprising bony metastases, pulmonary, hepatic, and paraaotic nodes. Following orchidectomy tumour regression was immediate with a clinical improvement period ranging from 48 hours to 24 months with a mean of 18 months (progression-free period). The median overall survival was 30 months, with a 5 year survival rate of 13.06%. Nine (4.05%) had disease progression despite orchidectomy. Castration resistance (escape phenomenon) begun to develop 18 months post orchidectomy evidenced by rising PSA from castrate level (nadir PSA). Nadir PSA mean was 8.7ng/ml. A total of 107(48.20%) had PSA nadir of <4ng/ml. Postoperative complications were related to decrease libido in 87(39.19%), andropause in 27(12.16%), scrotal hematoma in 9(4.05%), and surgical site infection in 11(4.95%).

4. Discussion

Over several decades surgical castration [8] displayed the gold standard for AD on the one hand while LHRH agonists stood for medical castration [9-10] on the other hand, as primary treatment for advanced PCa, both are effective. Equivalence of surgical and medical castration with regard to remission and overall survival rate has been verified sufficiently [11-12]. One advantage of orchidectomy is rapid effectiveness, with achievement of castration level between 3 to 12 hours post operatively [13]. The current study found immediate response within 48 hours. This is an important factor for symptomatic patients such as spinal cord compression, bone pains, and imminent pathological fracture. The mean time of tumour remission, overall survival, and non - response (tumour progression), were 18 months, 30 months, and 4.05% respectively were similar to findings by Rud *et al.* [14] of 29 months, 36 months, and 7.2% respectively. The 5 year survival of 13.06% was also similar to their 16%. Another advantage of orchidectomy over medical castration is good compliance as opposed LHRH analogues that are associated with more side effects, not readily available and expensive. The absence of testes was thought to cause body image problem in the past [15], we did not encounter such psychological problems in our series, and similar studies support our findings [16]. Furthermore patients taking LHRH analogues critically described feelings of being reminded of

their treatment and their cancer disease, due to this they felt a negative impact in quality of life [17].

5. Conclusion

Orchidectomy is found to be cost effective, compliant, safe, and acceptable for primary palliative treatment in advanced carcinoma of the prostate especially in developing countries where medical castration is expensive with poor compliance.

Table 1: Age distribution

Age (years)	No	%
<50	8	3.60
50-59	42	18.92
60-69	86	38.74
70-79	62	27.93
80-89	18	8.11
90+	6	2.70
Total	222	100

Table 2: Complications at Presentation

Complications	No	%
Acute urinary retention	56	25.23
Impaired renal function	54	24.32
Anemia	53	23.87
Erectile dysfunction	49	22.07
UTI/Urosepsis	37	16.67
Paraplegia	29	13.06
Pleural effusion	15	6.76
Pathological fracture	13	5.89
Priapism	5	2.25

NB: UTI Urinary tract infection

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