

Original article

Clinical Presentation, Pathological Pattern and Treatment Options of Prostate Cancer at Al-Azhar University Hospitals Over the Last 30 Years

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ABSTRACT

Objective: To report the clinical presentation, pathological pattern and treatment options of Prostate Cancer (PCa) cases diagnosed at Al-Azhar University Hospitals, Cairo, Egypt over the last 30 years.

Patients and Methods: Case sheets and hospital records of 322 consecutive cases of prostate cancer (PCa) diagnosed over 30 years period in Al-Azhar University Hospitals (between January 1980 and December 2009) were retrospectively analyzed. One fourth of cases presented during the first 15 years from 1980 to 1994 (Group I), while the remaining majority were encountered in the following 15 years from 1995 to 2009 (Group II). Assessment included Digital Rectal Examination (DRE), Pelvi-Abdominal ultrasonography, transrectal ultrasonography (TRUS) guided prostate biopsy. Serum Prostatic Acid Phosphatase (PAP) was available for the first group, while Prostate Specific Antigen (PSA) was available only in the second group. Cases with advanced disease, pelvi-abdominal Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) and bone scan were also performed to assess staging.

Results: The mean age of patients was 66.2±7 years (range 52-85). At disease presentation 90% of patients were 60 years or above. Organ confined disease was encountered in 17% and 45% in Group I and Group II respectively. Common clinical presentations included Lower Urinary Tract Symptoms (LUTS) and urine retention. Radical prostatectomy was done in 4% of Group I and 21% of Group II. Most of non organ confined cases were treated by castration. At the end of follow up period 28.5% of cases were living, while the remaining were dead either because of tumour related causes (31%) or non tumour related causes (40%). The mean follow-up period of cases was 40.39 months.

Conclusion: In this cohort of cases from a tertiary care referral hospital, prostatic carcinoma is usually diagnosed late. The majority of patients presented with advanced disease where available modalities of treatment are still limited. A coordinated awareness program to educate people may be needed.

Key Words: Prostate Cancer, Stage, Cause of Death, Follow up

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INTRODUCTION

In Egypt, the relative frequency of prostatic carcinoma is much lower than elsewhere reported as compared to bladder carcinoma. Difference in genetic predisposition, diet and climate added to the rarity of screening programs may contribute to the difference among other countries. Moreover the low male life expectancy in Egypt may be a factor behind low occurrence¹.

Data about the epidemiology of Prostate Cancer (PCa) in Egypt is lacking due to

public unawareness and scarce provision of health care to the disease. This had prompted the Egyptian Urological Association (EUA) to launch a nation-wide prostate health campaign for detection of PCa in Egypt during February and March 2001 where Prostate adenocarcinoma was encountered in 1.3% of 5148 cases².

Men who seek knowledge about PCa are faced with a lack of clarity and consensus in some areas, especially with regard to

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Table 1: Age at diagnosis of cases

Age	Group I (1980-1994)		Group II (1995-2009)		Total	
	No.	%	No.	%	No.	%
<60 years	4	6	30	12	34	11
60-70 years	42	58	94	38	136	42
>70 years	26	36	126	50	152	47
Total	72	100	250	100	322	100

individual risk, perceived risk factors, screening and treatment options. Some of this uncertainty might likely stem from a significant neglect of PCa compared with other cancers³.

Herein, we retrospectively examined the clinical, pathological features and treatment line adopted for prostate cancer cases diagnosed in our department over 30 years period.

PATIENTS AND METHODS

Case sheets and hospital records of 322 consecutive cases of prostate cancer (PCa) diagnosed over 30 years period in Al Azhar University Hospitals (between January 1980 and December 2009) were retrospectively analyzed.

Several features were studied: The age of the patients, clinical presentation, DRE, clinical stage of the tumors. The patients were categorized into two groups based on the date of diagnosis. The first group (Group I) included 72 cases (22%) diagnosed in the first 15 years (from 1980 to 1994) and the second group (Group II) comprised 250 cases (78%) diagnosed in the next 15 years (from 1995 to 2009). The age range was 52 to 85 years

Table 2: Clinical presentation of cases

Presentation	Group I (1980-1994)		Group II (1995-2009)		Total	
	No.	%	No.	%	No.	%
LUTS	13	18	126	50	139	43
Urine retention	37	51	76	30	113	35
Distant metastasis	9	13	14	6	23	7
Hematuria	1	1.5	9	4	10	3
Incidental	1	1.5	12	5	13	4
Post TURP	11	15	13	5	24	8
Total	72	100	250	100	322	100

with a mean age of 66.2±7.9 years. Assessment included DRE, urine analysis and pelvi-abdominal ultrasonography, TRUS guided prostate biopsy. Serum PAP was used in group I, while serum PSA was only available in group II. For those with advanced disease pelvi-abdominal Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) and Bone scan were performed to assess proper staging.

RESULTS

The mean age of the patients at diagnosis was 66.2±7 years (range 52-85). At disease presentation 90 % of patients were 60 years or above. While most of the patients in Group I (58%) were between 60 and 70 years of age, half of the patients in Group II were over 70 years of age (Table 1).

The majority of patients in this study were symptomatic. The most common symptoms were LUTS and urine retention, while urine retention was the most common presentation in group I (51%), LUTS was more prevalent in group II (50%). Eight percent of cases were diagnosed as PCa after TURP. The incidental cases were very rare (4%) (Table 2).

The results of this study showed that 39% had organ confined PCa while the remaining

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Table 3: Clinical stage of cases

Tumor stage	Group I (1980-1994)		Group II (1995-2009)		Total	
	No.	%	No.	%	No.	%
Organ confined	14	17	113	45	125	39
Non-organ confined	58	83	137	55	197	61
Total	72	100	250	100	322	100

cases had non organ confined disease. There was statistically significant increase in the number of patients who had organ confined disease in Group II (45%) compared to (17%) in Group I (Table 3).

Radical prostatectomy was done in only 4% of Group I and 21% of Group II. The majority of cases in both groups were treated by hormonal therapy either as a primary or secondary treatment, surgical castration was performed in (51%) of cases while medical castration was the modality of treatment in (61%). Secondary treatment was needed in (62%) of cases (Table 4).

Each patient was treated according to whether the tumour was organ confined or non organ confined. While 100% of cases of radical prostatectomy were organ confined, all patients who underwent radiotherapy were non organ confined (Table 5).

At the time of follow up, 28.5% of cases were living either with the disease (22.5%) or disease free (6%) and the remaining cases were dead either because of the tumour (31%) or non tumour related (Table 6).

The mean follow-up period of cases was 40.39 months (median 29 months) ranging from 13-132 months.

Table 4: Treatment modalities done for studied cases

Treatment	Group I (1980-1994)		Group II (1995-2009)		Total	
	No.	%	No.	%	No.	%
Watchful waiting	0	0	7	3	7	2
Radical prostatectomy	3	4	53	21	56	17
Surgical castration	48	67	115	57	163	51
Medical castration	54	72	142	57	196	61
Radiotherapy	8	11	13	5	21	6

DISCUSSION

Prostate cancer is a very complex disease and the decision-making process requires the clinician to balance clinical benefits, life expectancy, comorbidities and potential treatment related side effects. Accurate prediction of clinical outcomes may help in the difficult process of making decisions related to prostate cancer⁴. The decision to treat elderly men with prostate cancer should be made based on a thorough assessment of life expectancy, patient preference and outcome expectations based on pathological criteria⁵.

The mean age at diagnosis (66.2±7 years, range 52-85), as well as the peak age incidence is comparable to reports from other study⁶, in which median age at diagnosis was 69.9 (range: 59-93). The youngest patient in this study was 52 years old, other researchers⁷, from Nigeria reported PCa in a patient 47 years old. There was difference between the two groups regarding the age of presentation. In those cases younger than 60, 5 % of cases were of Group I compared to 12% of Group II. This is due to the widespread use of PSA and TRUS biopsy in the date beyond 1995 that lead to more detection of PCa at younger ages.

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Table 5: Tumor-stage and treatment modalities

Treatment	Organ confined (125)		Non organ confined (197)		Total (322)	
	No.	%	No.	%	No.	%
Watchful waiting	7	6	0	0	7	2
Radical prostatectomy	55	44	0	0	55	17
Surgical castration	27	22	136	69	163	51
Medical castration	49	39	147	76	196	61
Radiotherapy	0	0	21	11	21	6

The most common presentations were LUTS and urine retention, while LUTS was more prevalent in Group II (50 %), urine retention was the most common presentation in Group I (51%). These results are comparable to the results of other study⁷, in which the majority of cases (87%) presented with LUTS and features of locally advanced or metastatic disease.

The results of this study showed that (39%) of our patients had organ confined disease, while the remaining (61%) had non organ confined disease. These results were in agreement with those reported by El-Nahas et al⁸, who reported (41.7%) organ confined disease in their study.

In this study, there was statistically significant increase in the number of patients who had organ confined disease in Group II (45%) compared to only (17%) in Group I. The reason for the late presentation in Group I could stem from ignorance, marked poverty that has permeated our society and that prostate cancer is not a health priority exceeded by bladder cancer. Other reasons may explain the prevalence of non organ confined PCA in Group I, such as absence of screening program, inadequate diagnostic facilities

(no wide use of PSA as a tumor marker) and lack of health education.

The majority of cases in both groups were treated by hormonal therapy either surgical (51%) or medical (61%), These results were also in agreement with those reported in another study⁶, who included totally 83 patients 78% of them were treated by hormonal manipulation. Radical prostatectomy was done in 4% of Group I and 21% of Group II, this was due to the increased number of organ confined disease in group II than in Group I. Secondary treatment was needed in (62%) of cases which was much higher than that reported by other studies^{7, 9, 10} who reported secondary treatment in up to 28 % of their patients.

Each patient was treated according to whether the tumour was organ confined or non organ confined. While all cases treated by radical prostatectomy were organ confined, all patients who underwent radiotherapy were non organ confined. The rates of radical prostatectomy and radiation therapy observed in our study are comparable to those observed by other studies^{11,12}, who reported radical prostatectomy in 39.7% and 35.5%, respectively, while radiation therapy was reported in 31.4% and 30.5%, respectively in clinically localized prostate cancer.

Prostate cancer related death rate in our study was 31%. In other study in Nigeria the rate was 15.6%⁷, the higher mortality rate in our study than theirs was because that, the majority of their patients were loss to follow up with only 36.9% still attending outpatient clinic. In this study 3% of patients with organ confined disease died because of the tumour, similar results were reported by other researchers¹³, in which 2.7% of cases with low and intermediate prostate cancer died because of the tumour regardless of treatment strategy.

The mean follow-up period of cases was 40.39 months (median 29 months) ranging

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Table 6: Tumor stage and cause of death

Treatment	Organ confined		Non organ confined		Total	
	No.	%	No.	%	No.	%
Living (disease free)	20	16	0	0	20	6
Living with disease	31	25	41	21	72	22.5
Died (tumour related)	4	3	97	49	101	31
Died (tumour non related)	69	55	59	30	128	40
Unknown	1	1	0	0	1	0.5
Total	125	100	197	100	322	100

from 13-132 months. These results were in agreement with the results of researchers from Egypt¹⁴ and from Nigeria⁷ who followed up their patients for 39 and 36 months respectively, but it was very short period compared with researchers from Europe¹⁵, who followed up their patients for 10 years.

The primary limitation of this series is the retrospective nature of the study. There is the potential that patients with unfavorable features are not voluntarily reported to the registry, or that unfavorable outcomes are inaccurately reported. The second limitation is short follow up period. The third limitation is that this work is coming from single institution which may not reflect the exact figures about PCa in our country. However, it gives an idea about the low incidence of PCa in Egypt, the late presentation of this tumor in a considerable number of patients and the defective modalities of treatment in providing cure for most of cases.

In conclusion; this cohort of cases from a tertiary care referral hospital, prostatic carcinoma is usually diagnosed late. The majority of patients presented with advanced disease where available modalities of treatment are still limited. A coordinated awareness program to educate people may be needed.

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