

Gross Hematuria and Prostatic Cancer in Libyan Patients

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ABSTRACT

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Aim:

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Gross hematuria due to prostate cancer is an important clinical presentation and it is necessary to collect, analyze and determine certain criteria and data in the diagnosis and management of prostatic cancer. The aim of the present study is to find out the frequency of gross hematuria and to correlate it with gross hematuria and serum Prostatic Specific Antigen (PSA) in prostatic cancer patients.

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Materials and methods:

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A retrospective study was done in patients diagnosed with prostatic cancer in Hawari center for urology in Benghazi Libya from 2011 up to 2017. 60 cases were taken for the present study and data such as age of patient, first complaint such as gross hematuria, serum PSA result, TUR-P, histopathology result, the types of therapy received (medical or surgical) were analyzed.

Results:

25 percent cases in the present study had gross hematuria and there was positive correlation between gross hematuria, serum PSA levels and Gleason score.

Conclusion:

The result of this study indicates that the presentation of hematuria is not uncommon in prostate cancer and there is a mandatory need for screening of PSA and DRE for men aged from 50-70 years old for early diagnosis and management of prostate cancer.

Keywords: prostate cancer, hematuria., PSA, Gleason score.

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Introduction:

Gross hematuria is one of the clinical findings in patients with prostatic cancer. Prostate cancer is one of the major health problems that affect men's health. Gross hematuria in patients with prostate cancer is, therefore, a finding that needs to be taken into consideration in the diagnosis and management of prostatic cancer patients along with other confounding factors like smoking history, symptoms of infection, stage of the cancer. The present study is undertaken to evaluate the presence and management of gross hematuria in Libyan patients

Materials and Methods

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Results:

The total number of patients in this study is 60 patients, studied retrospectively in Hawari Center for urology Benghazi – Libya over a period of 7 years from 2011 up to 2017.

Out of 60 patients with prostate cancer, the gross hematuria was noticed in 15 patients in this series which is approximately 25 % of the patients, while the high PSA level documented was noticed in all patients.

Table 1. The average age group of prostate cancer patients.

Age group	Number of patients	Percentage %
51-60 years	4	7 %
61-70 years	23	39%
71-80 years	19	32 %
81-90 years	12	20%
91-100 years	2	2%
total	60	100%

Out of 60 patients 4 of them between the age 51-60 years which represent about 7% of patients, 23 patients were between the age of 61-70 years about 39% of patients. 19 patients were between the age of 71-80 years about 32% of patients, 12 patients were between the age of 81-90 years about 20% of the patients, 2 patients were more than the age of 90 about 2% of patients.

The 49 commonest age of prostate cancer was between 61-70 and 71-80 years respectively which is the 50 optimum age of presentation for prostate cancer. The youngest age in the group was 54 and the 51 eldest age was 92. Mean patients' age upon diagnosis of prostate cancer was 73 years (SD 19).52

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Table 2 The presentation of prostate cancer

The presentation	Number of patients	Percentage %
Gross hematuria	15	25%
Urine retention	5	8%
Asymptomatic	25	42%
Other symptoms	15	25%
Total	60	100%

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The 56 number of patients presented with gross hematuria are 15 which constitute about 25% of patients, 5 of patients presented with urine retention which constitute about 8% of patients, 25 of patients are asymptomatic which constitute about 42% of patients, 15 patients presented with other 59 symptoms include (LUT, perineal or voiding discomfort, symptom of bone metastasis) which 60 constitute about 25% of patients.

Table 3. Gross hematuria associated with high PSA at presentation.

	Number of patients	percentage
Gross hematuria	15	25%
High PSA	60	100%

Out 62 of 60 patients about 25% of patients are presented with gross hematuria and are associated with 63 high PSA at time of first presentation of prostate cancer which mainly included in this study as a 64 important correlation.

The 65 presentation of gross hematuria in prostate cancer in our study represent about 25% of patients 66 by qualitative description and has positive correlation with high PSA using Spearman's rank 67 of correlation ($R_s = 0.116$),

Table 4. Serum PSA Level in prostatic cancer patients

PSA	Number of patients	Percentages %
Between 4-10 ng/ml	9	16%
Between 10-20 ng/ml	14	23%
Between 20-50 ng /ml	17	28%
More than 50 ng/ml	20	33%
Total	60	100%

The highest reading of PSA is 1787 ng/ml and the lowest reading is 6.6 ng/ml; The mean of patient numbers was 15 and (SD =4.06)

Table 5. Histopathology result and Gleason score:

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Gleason score	Number of patients	Percentage %
2-6	22	36%
7	8	14%
8-10	30	50%
Total	60	100%

22 of patients was between the Gleason score from 2-6 which represent about 36% of patients, 8 of patients have Gleason score 7 about 14% of patients, 30 of patient the Gleason score was between 8-10 which represent 50% of patient, the most common Gleason score in this study was (4+5)9.

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Table 6. Relationship between serum PSA levels and Gleason score

Serum PSA	Low Gleason score	High Gleason score	Total
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	(2-6) No %	(7-10)No %	
4-10ng/mL	4 6.6 %	5 8.3 %	9 - (15%)
10-20ng/mL	6 10%	8 13.3 %	14-(23.3%)
20-50ng/mL	5 8.3%	12 20 %	17-(28.3%)
>50ng/mL	7 11.6%	13 21.6 %	20-(33.3%)
Total	22 36.6%	38 63.3 %	60-(100%)

High PSA level are associated with high Gleasons score.

Table .7. Management used for prostate cancer

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Type of management	Number of patients	Percentage
TUR-P	26	43%
Surgical castration	12	20%
Hormonal therapy	16	27%
Radical prostatectomy	2	3.3%
Radiotherapy	4	6.7%
Total	60	100%

(More than 63% of patients require surgical intervention), more than 43% of patients included in this study was treated by TUR-P for management of hematuria, more than 20% of patients underwent surgical castration and more than 27% of patient received hormonal therapy, 6% of patients received radiotherapy and two cases underwent radical prostatectomy.

Discussion:

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Prostate cancer is the second most common malignancy affecting men aged 50-70 years. This tumor is highly aggressive when detected late and has poor prognosis. Therefore, early screening of men with gross hematuria for prostatic cancer may help early detection and treatment. It was found that more than 25% of the patients diagnosed with prostate cancer the hematuria was due to prostate bleeding. Diagnosis the etiology of the gross hematuria was not difficult in most

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casescystoscopy,trans-rectal prostatic biopsy, TURP provide histopathology for the diagnosis in most of cases.	93 94
Most of the patients are presented with high PSA (>6.5 ng/ml) and therefore, PSA screening was included for early detection and monitoring management of prostate cancer. Various treatment for gross hematuria in prostate cancer patients were proposed include medical and surgical management such as hormonal manipulation, TUR-P, radiotherapy, radical prostatectomy.	95 96 97 98
About more 63% of patients require surgical intervention and was the most effective management to stop gross hematuria in prostate cancer patient with highly cure rate .Hormonal therapy also was included in most patients and more 27% was documented to receive hormonal therapy	99 100 101 102
Palliative radiotherapy for gross hematuria was reported in 4 patients to alleviate hematuria.The prognosis of patients with prostate cancer that developed gross hematuria was dependent on initial therapy for prostate cancer.	103 104 105
About 63.3% of the histopathology reports the Gleason score was high (7-10)and are associated with high PSA result. In previous studies showed that gross hematuria in prostate cancer has high prevalence in aging men and have significant effect on quality of life and progressing of the disease, these studies identified several causes of gross hematuria.	106 107 108 109
Also, previous study explores the association between the result of PSA and the Gleason score in patients with prostate cancer.	110 111
Gross hematuria in patients with prostate cancer: etiology and management, the objective of the study was to assess the etiology and prognosis of gross hematuria in patients with carcinoma of the prostate(5).From 1991 to 2011, 81 men (mean age 74.3 years, SD 6.5) with prostate cancer were hospitalized with gross hematuria ,primary treatment of prostate cancer was radical surgery in 13 patients (group 1) and nonsurgical therapy in 68 (group 2), mostly radiotherapy (35 cases) and hormonal treatment (25 cases). The common etiologies of gross hematuria in group 1 were bladder cancer (38.5%) and urinary infection (23%), in contrast, prostate cancer itself caused gross hematuria in (60%) of the patients in group 2.	112 113 114 115 116 117 118 119
Thirty-nine patients (48%) required transurethral surgery to manage gross hematuria which was effective in all cases; nevertheless, they conclude that the etiology of gross hematuria in patients with prostate cancer varies according to primary treatment, after radical prostatectomy, it is caused by bladder cancer or infection.	120 121 122 123
When the primary treatment is not surgical, gross hematuria is most commonly due to prostate cancer itself, although surgical intervention is effective in alleviating hematuria of these patients	124 125

.In our study the presentation of gross hematuria due to prostate cancer was about 25% which is less than other studies. 126
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The mean age of patient in our study was 73 and in other study 74.3. In our study more than 63% of patient require surgical intervention for management of hematuria while that of Ofer N Gofirt's study (2013) was 48% of patients. 128
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They analyzed the association between these clinical, pathological and radiological parameters in patients with a diagnosis of prostatic adenocarcinoma. Results were of the 123 patients diagnosed with prostatic cancer during the 3year study period, 72 patients with complete data were included in the study. Of the 72 patients, 15(20.83%) presented positive scintigraphic examinations for the presence of bone metastasis All patients who had bone metastasis on scintigraphy had PSA value of > 20 ng/mL, and in only 1 patient (0.46%) with bone metastasis PSA concentration was <50ng/mL. There was no statistically significant correlation between PSA level and tumor grading by Gleason score and between Gleason score and bone metastasis. 131
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In our study there was significant correlation between the result of PSA and the Gleason score since most high Gleason score results are associated with high PSA result. The high prevalence of high PSA identified in our study and other studies supports the recommendation that serum PSA level should be checked in every patient above 50 years old for early detection and management prostate cancer. 139
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Conclusion: 144

145 Complete investigation of any patient admitted with gross painless hematuria must be 146 indicated to rule out prostate cancer.

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148 There is mandatory need for screening of PSA and DRE for men aged from 50-70 years 149 old for early diagnosis and management of prostate cancer.

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151 Prostate cancer is sometimes symptomatic disease and gross hematuria is not uncommon 152 presentation and prostate cancer should be suspected.

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154 The most common diagnostic modality for prostate cancer is currently trans-rectal 155 ultrasound with guided biopsy, TUR-P was indicated for 43% of patients included for 156 lower urinary tract symptoms / retention where histopathology was obtained.

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158 Medical treatment can be effective in some cases.

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160 Diagnosis of gross hematuria can be accomplished in most cases by cystoscopy. The 161 management of these patients was difficult. Transurethral surgical intervention is often 162 needed, surgery is very effective in alleviating gross hematuria.

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