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ORIGINAL ARTICLE

Frequency of Urological Carcinomas in Patients with Gross Haematuria

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ABSTRACT

Objective: The aim of this study is to determine the frequency of urological carcinomas in patients with gross haematuria.

Study Design: Prospective study

Place and Duration: Swat Urology Ward Saidu Group of Teaching Hospital, Swat for the duration of six months from 1st April 2021 to 31st September 2021.

Material and Methods: There were one hundred and forty five patients with ages 20-55 years were presented in this study. All the included patients had blood in urine.After receiving informed written permission, detailed demographic information about the recruited patients, including age, gender, body mass index, and causes of haematuria, was compiled.Urine cytology and microscopy were used to rule out the presence of malignant cells in haematuria. Every time a cystoscopy or computed tomography (CT) scan was needed to monitor the health of our patients, we sent them for an ultrasound.Frequency of urological carcinomas was calculated. SPSS 22.0 was used to analyze all of the data in the study.

Results: There were 90 (62.1%) males and 55 (37.9%) females in our study. Mean age of the patients was 41.8±5.54 years with mean BMI 24.5±4.76 kg/m^2. 80 (55.2%) patients were literate. Most common cause was urinary tract infection found in 50 (34.5%) cases, trauma in 45 (31.03%), urolithiasis in 30 (20.7%) cases and smoking in 20 (13.8%) patients. Prevalence of urological carcinoma was found in 27 (18.6%) cases.

Conclusion: We found a significant incidence of urological carcinomas in our research. Gross haematuria was most often caused by urinary tract infection or trauma.

Keywords: Urological carcinomas, Gross haematuria, Urinary tract infection

INTRODUCTION

One of the most frequent urinary abnormalities that prompts people to seek medical treatment is hematuria, which is especially noticeable when the patient has large amounts of urine (GH). In accordance with data obtained from medical examinations, the prevalence of asymptomatic microhematuria (AMH) is between 5 percent and 20 percent. The existence or absence of medical renal illnesses such as nephropathy and nephritis in patients with AMH is often determined by initial inspections that include urine testing and blood tests. [1-3] If there is no evidence of renal parenchymal illness, patients are evaluated for malignant tumours of the kidney and urinary system.[4]

Currently, cystoscopy is the gold standard for the diagnosis of lower urinary tract urothelial cancer (LT-UC); however, imaging techniques such as ultrasonography and computed tomography (CT) urography are only partially effective in the detection of small bladder urothelial cancer (UC). RCC may be detected most effectively using computed tomography with and without augmentation in the nephrographic phase; however, the excretory phase is not required in this case.[5] The use of computed tomography urography, which includes an excretory phase, has the best sensitivity for the detection of upper urinary tract UC (UT-UC), but it is associated with the largest radiation dose and the longest examination duration. Even while ultrasonography is less sensitive than CT urography in the detection of RCC and UC, as well as urinary stones, it has the benefit of being noninvasive and inexpensive in cost.[6] For patients with microscopic hematuria aged >35 years, the American Urological Association best-practice policy advises cystourethroscopy. For patients aged 35 years with risk factors, the American Urological Association best-practice policy recommends cystourethroscopy.[7] Others have advocated for more stringent criteria for identifying a subgroup of individuals who appear with microscopic hematuria and should be evaluated by a urologist [8]. Many individuals with hematuria are not adequately referred to urologists for assessment, which is a cause for concern. In a study of 788 primary care doctors, researchers found that only 36% of respondents reported sending patients with microscopic hematuria to urologists [9]. Referral rates were only 69–77 percent in individuals with gross hematuria, according to the study. Using data from a health-plan database, researchers discovered that only 47 percent of men and 28 percent of women who had recently been diagnosed with hematuria had their condition evaluated for urologic examination [10, 11].

It has been proven that the risk of bladder cancer in a particular patient is influenced by a number of different variables. Although few studies have examined the combined impact of these variables [11,12], few have done so.

Purpose of study is to evaluate prevalence of urological carcinomas among patients with gross haematuria and to calculate its causes.

MATERIAL AND METHODS

This prospective study was conducted atSwat Urology Ward Saidu Group of Teaching Hospital, Swat for the duration of six months from 1st April 2021 to 31st September 2021 and comprised of 145 patients.After receiving informed written permission, detailed demographic information about the recruited patients, including age, gender, body mass index, and causes of haematuria, was compiled. Patients <20 years of age and those did not provide any written consent were excluded from this study.

Age of the patients was between 20-55 years.Urine cytology and microscopy were used to rule out the presence of malignant cells in haematuria. Every time a cystoscopy or computed tomography (CT) scan was needed to monitor the health of our patients, we sent them for an ultrasound.At each of the three locations, cytology was carried out by qualified employees who undertake more than 3000 tests every year. Positive cytology results were considered suspicious or positive if the results were negative or atypical, while negative results were considered negative. If one or more tumours were found during the initial cystourethroscopy or within the following three months, the patients were considered positive for malignancy.

SPSS 22.0 was used to analyze all of the data in the study. Frequencies and percentages were used for categorical variables.

RESULTS

There were 90 (62.1%) males and 55 (37.9%) females in our study.(fig 1)

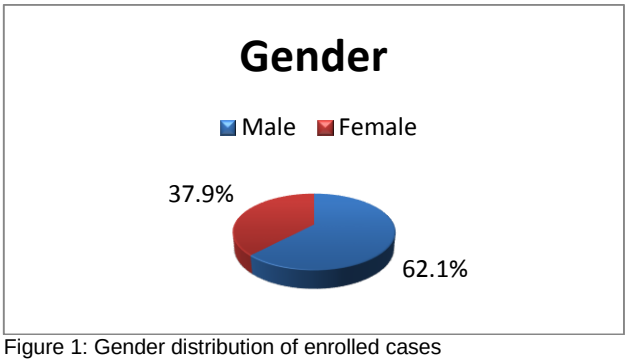

Figure 1: Gender distribution of enrolled cases

Mean age of the patients was 41.8±5.54 years with mean BMI 24.5±4.76 kg/m^2. 80 (55.2%) patients were literate and 87 (60%) patients had poor socio-economic status .(table 1)

Table 1: Characteristics of enrolled cases

Variables	Frequency	Percentage
Mean age (years)	41.8±5.54	
Mean BMI (kg/m^2)	24.5±4.76	
Literacy		
Yes	80	55.2
No	65	44.8
Socio-economic status		
Poor	87	60
Good	58	40

Most common cause was urinary tract infection found in 50 (34.5%) cases, trauma in 45 (31.03%), urolithiasis in 30 (20.7%) cases and smoking in 20 (13.8%) patients.(table 2)

Table 2: Causes of gross haematuria

Variables	Frequency	Percentage
Causes		
urinary tract infection	50	34.5
trauma	45	31.03
urolithiasis	30	20.7
smoking	20	13.8
Total	145	100

Prevalence of urological carcinoma was found in 27 (18.6%) cases.(fig 2)

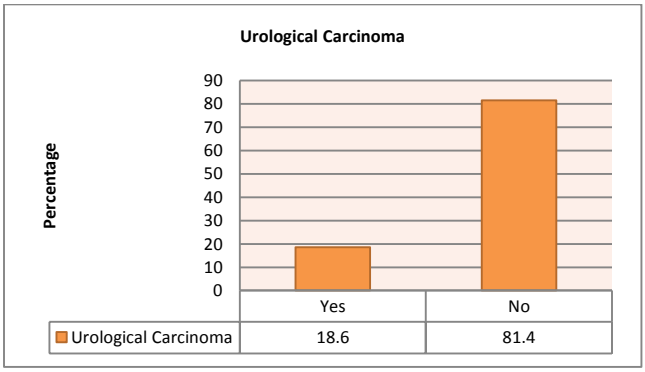

Figure 2: Frequency of urological carcinoma

DISCUSSION

There are various urological diseases that cause haematuria, which necessitates the patient to seek medical attention. In some cases, it might be the result of something minor, but in other cases, it could be a warning sign of a life-threatening condition. According to our research findings, most general practitioners treat haematuria as an undiagnosed urinary tract infection or kidney stone until it is too late, instead treating it empirically as such.

The importance of quick diagnosis and treatment of bladder cancer cannot be overstated.[13,14] About a quarter of Western bladder cancer patients are diagnosed with muscle-invasive illness. It is possible to treat bladder cancer effectively and with a high quality of life and excellent survival rates if it is diagnosed in the early stages when it is still contained inside the mucosa or lamina propria. Bladder cancer screening is not now suggested because of the low frequency of the illness; hence, most individuals are detected after presenting with hematuria. [15] Even though 9–18 percent of the population may have hematuria at some point in their lives, the condition remains rare.[16]

In this prospective study 145 patients of both genders had gross haematuriawth ages 20-55 years were presented.There were 90 (62.1%) males and 55 (37.9%) females in our study. Mean age of the patients was 41.8±5.54 years with mean BMI 24.5±4.76 kg/m^2.80 (55.2%) patients were literate and 87 (60%) patients had poor socio-economic status. Results of our study was

comparable to the previous studies.[17,18]Most common cause was urinary tract infection found in 50 (34.5%) cases, trauma in 45 (31.03%), urolithiasis in 30 (20.7%) cases and smoking in 20 (13.8%) patients.Gösta Wall-mark etal found that it was similar to previous investigations. Who also noticed that Staphylococcus infections were more often connected with haematuria. [19] People of Pakistan, particularly those in the lower socio-economic strata. UNDP's 2016 Human Development Report shows that 45.6 percent of Pakistan's population is living below the multidimensional poverty line.[20]. Because TB is often believed to be an incurable disease, individuals prefer to conceal their illness until more serious symptoms like haematuria emerge.

In current study prevalence of urological carcinoma was found in 27 (18.6%) cases. Patients with gross haematuria were shown to have a 23% chance of having genitourinary cancer, according to William C. Carter and Stephen N. Rous, who made a similar discovery. [21] Urological malignancies are more likely to occur in men over the age of 50, those who smoke, and those who have been exposed to chemicals like cyclophosphamide, benzenes, aromatic amines, and pelvic radiation. [22]Early diagnosis of curable urothelial carcinomas is facilitated by timely assessment. Microscopy of urine should elicit an examination of renal function, and if proteinuria, elevated serum creatinine or red cell casts are discovered, a nephrologist should be contacted. An imaging and urine cytology examination is necessary after treating the underlying cause of the illness in order to ensure that the patient's condition is not worsened. An ultrasound should be performed at the very least and an Urological consultation should be sought when findings are positive if there is gross haemorrhage. [23]

CONCLUSION

We found a significant incidence of urological carcinomas in our research. Gross haematuria was most often caused by urinary tract infection or trauma.

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