FREQUENCY OF UROLOGICAL CARCINOMA IN PATIENTS PRESENTING WITH GROSS HAEMATURIA

HAMID H1, GHANI A2, FAROOQ K3, ULLAH R3, BEGUM F4, KHAN IA1

1Department of Urology, Bannu Medical College, Bannu, Pakistan
2Department of surgery Bannu medical College, Bannu, Pakistan
3Department of Urology Lady Reading Hospital Peshawar, Pakistan
4Department of Radiology Pakistan International Medical College Peshawar, Pakistan

*Corresponding author's email address: drkhalid846@gmail.com

(Received, 18th June 2023, Revised 16th October 2023, Published 17th October 2023)

Abstract Numerous studies showed that people with gross haematuria had a greater chance of acquiring urological carcinomas and those with gross haematuria had a high incidence of malignant cells. The current study was carried out to determine the frequency of urological carcinoma amongst patients presenting with gross haematuria. The current study was cross-sectional, done at the Urology Department Khalifa Gul Nawaz Teaching Hospital for six months from January 2023 to June 2023. In the current study, 170 patients were enrolled. Age, gender, place of residence, and socioeconomic level were all noted for patients. All the collected data was analyzed by using 23 version of SPSS. A total of 170 patients were enrolled in the current study. The male participants were 128 (75.29%) and female patients were 42 (24.71%). Most of the patients 82 (48.23%), were 40-50 years old. The frequency of urological carcinomas was observed in 29 (17.06%). According to the findings of our investigation, urological carcinoma is a common problem. The most prevalent causes of gross haematuria were urinary tract infections and trauma. Since urothelial tumors may be efficiently handled with a better long-term result if found early, general practitioners should order an ultrasound scan for individuals presenting with gross haematuria.

Keywords: Frequency; urological carcinoma; gross haematuria, urology

Introduction Hematuria, which is particularly obvious when the patient has significant quantities of urine, is one of the most prevalent urinary abnormalities that motivate patients to seek medical attention. According to the findings of several medical investigations, the frequency of asymptomatic microhematuria (AMH) ranges from 5-20%. Initial examinations that involve blood and urine tests are often used to assess whether or not individuals with AMH have medical renal disorders such as nephropathy and nephritis (Britton et al., 1992; Hiatt and Ordonez, 1994; Messing et al., 1992). Patients are assessed for malignant tumors of the kidney and urinary system if there is no indication of renal parenchymal disease (Davis et al., 2012). While imaging methods like ultrasonography and computed tomography (CT) urography are very successful in detecting large bladder urothelial carcinoma (UC), they are only moderately good in detecting small bladder UC, making cystoscopy the current gold standard for LT-UC diagnosis. In this situation, the excretory phase is unnecessary, although computed tomography with and without amplification in the nephrographic phase might be the most efficient method for detecting RCC (Cowan, 2012). The most sensitive method for finding upper urinary tract UC (UT- UC) is computed tomography urography, which involves an excretory phase. However, this method has the highest radiation dosage and takes the longest to perform. Ultrasonography has the advantage of being noninvasive and affordable, even if it is less sensitive than CT urography in diagnosing RCC and UC as well as urinary stones (Tan et al., 2018). The American Urological Association's best-practice guidelines recommend cystourethroscopy for individuals with microscopic hematuria who are older than 35. The American Urological Association's recommended standard of care for individuals over the age of 35 who have risk factors is cystourethroscopy (Davis et al., 2012). Some people have argued for stringent standards for identifying a subset of people with microscopic hematuria and need to be examined by a urologist (Cohen and Brown, 2003). It is concerning that many people with hematuria are not sent to urologists for evaluation in a sufficient manner. Researchers polled 788 primary care doctors and found that only 36% stated they sent patients with microscopic hematuria...
to urologists (Nieder et al., 2010). According to the research, referral rates for those with gross hematuria were only 69% to 77%. Researchers looked at information from a health plan database. They found that only 47% of males and 28% of females recently identified with hematuria had their problem checked out by a urologist (Johnson et al., 2008). It has been shown that various factors may affect a patient's chance of developing bladder cancer. While a few investigations have undertaken so (Lotan et al., 2009; Summerton et al., 2002), few have looked at the combined influence of these factors. This study was conducted to ascertain the prevalence of urological cancer in patients presenting with gross haematuria since there was no previous research in our setting.

Materials and methods

The current study was cross-sectional, done at the Urology department Khalifa Gul Nawaz Teaching Hospital for six months from January 2023 to June 2023. 170 patients were enrolled in our study based on WHO calculator sample size calculator. The inclusion criteria for our study were all the patients of both genders aged 18-60 years presenting with gross haematuria. Patients already receiving treatment for urological malignancies and those with microscopic haematuria were not selected in our study.

Age, gender, place of residence, and socioeconomic level were all noted for patients. Urine cytology, a microscopic examination, and routine urine testing were done after obtaining informed permission to confirm instances of gross haematuria and rule out the presence of malignant cells. When necessary, patients were monitored with ultrasound, X-ray KUB, CTU scan, and cystoscopy. Various factors were considered potential causes of gross haematuria, including trauma, UTI, urolithiasis, prostatic hyperplasia, and strenuous activity. Urological cancer frequency was noted. Patients' histories of haematuria episodes were looked at SPSS 23 was used to analyze all the data.

Results

A total of 170 patients were enrolled in the current study. The male participants were 128 (75.29%), and female patients were 42 (24.71%). (Figure 1) On the basis of age distribution, 17(10%) patients were aged <30 years, 30 (17.64%) patients were from 30 to 40 years, 81 (47.64%) were aged 40-50 years while the age of 42(24.70%) patients was more than 50 years. (Figure 2) Based on the causes of gross haematuria we observed that in majority of cases, urinary tract infection (UTI) was the cause observed in 53 (31.17%) patients, trauma in 40 (23.52%), urolithiasis in 32 (18.82%), prostatic hyperplasia in 29 (17.05%), drugs in 8 (4.70%) and heavy activities in 8 (4.70%) patients (Table 1). The frequency of urological carcinomas was observed in 29 (17.06%).

![Figure 1: Distribution of patients on the basis of gender](image1)

![Figure 2: Distribution of patients on the basis of age](image2)

<table>
<thead>
<tr>
<th>Cause of haematuria</th>
<th>Gross Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>urinary tract infection</td>
<td>53 (31.17%)</td>
</tr>
<tr>
<td>trauma</td>
<td>40 (23.52%)</td>
</tr>
<tr>
<td>urolithiasis</td>
<td>32 (18.82%)</td>
</tr>
<tr>
<td>prostatic hyperplasia</td>
<td>29 (17.05%)</td>
</tr>
<tr>
<td>drugs</td>
<td>8 (4.70%)</td>
</tr>
<tr>
<td>heavy activities</td>
<td>8 (4.70%)</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
</tr>
</tbody>
</table>

Table 1: Distribution of patients on the Cause of Gross haematuria

Gross haematuria is one of the most prevalent urological conditions with a significant risk of morbidity and death (Buteau et al., 2014). Numerous investigations have shown that individuals with gross haematuria are at an increased risk of getting urological carcinomas and have a higher incidence of malignant cells (Halpern et al., 2017). The current investigation aimed to determine the prevalence of urological carcinomas among patients with gross haematuria and the underlying causes of this condition. A total of 170 patients were enrolled in the current study. The male participants were 128 (75.29%), and female patients were 42 (24.71%). These findings were consistent with other research where numerous patients presenting with gross haematuria were urinary tract infections and trauma. Since urothelial tumors may be efficiently handled with a better long-term result if found early, general practitioners should order an ultrasound scan for individuals presenting with gross haematuria.

**References**


investigated for microscopic hematuria? The Journal of urology 200, 973-980.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Not applicable

Consent for publication
Not applicable

Funding
Not applicable

Conflict of Interest
Regarding conflicts of interest, the authors state that their research was carried out independently without any affiliations or financial ties that could raise concerns about biases.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/. © The Author(s) 2023

[Image: https://doi.org/10.54112/bcsrj.v2023i1.471]