



## Retrospective Study of Cystoscopic Diagnosis and Clinical Importance of Red Patches in Cases of Hematuria and Lower Urinary Tract Symptoms

## KEYWORDS

Red patches, cystoscopy, CIS, carcinoma in situ; LUTS, lower urinary tract symptoms.

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**ABSTRACT** **Background** –Cystoscopy is a common procedure done for symptomatic hematuria and red patches are common finding. Biopsy is done routinely to diagnose sinister diagnosis of carcinoma –in- situ among **other causes**.

**Objective** – To analyze and diagnose pathology of red patches and to determine whether routine biopsy should be done during cystoscopy.

**Material and method** – this was a retrospective study done in 24 months and included total 54 patients underwent cystoscopic biopsy of red patches.

Patients had history of carcinoma urinary bladder or gross tumors were excluded from this study.

**RESULT** – out of 54 patients 28 had biopsy for lower urinary tract symptoms 22 had for hematuria and 04 for urinary tract infection. Mean age was 56.8 years and carcinoma in situ was present in 4 patients (7%) although urine cytology was positive only for 1 patient.

**CONCLUSION** – Biopsy of all red patches should be done to rule out carcinoma-in-situ during cystoscopy. This may also detects other pathology, which plays a major role for further management.

**INTRODUCTION –**

Cystoscopy is the very common procedure now a day to evaluate patients presenting with hematuria either microscopic or gross as well as for lower urinary tract symptoms (LUTS—obstructive and irritative), which may be the result of neurological, inflammatory, neoplastic or congenital abnormalities.<sup>1</sup> Its very common to find red patches during cystoscopy in urinary bladder mucosa and generally we take biopsies from these patches to rule out underlying carcinoma in situ as this usually appears in beginning as red velvety erythematous patches. Our aim of study was to evaluate the clinical importance of red patches commonly found during cystoscopy.

**MATERIAL AND METHOD –**

This was the retrospective study performed during the period between November 2013 to October 2015 by analyzing all biopsies taken from red patches found during rigid cystoscopy at J. L. N. M .C. H. Bhagalpur Bihar. Total of 210 patients underwent cystoscopic examination for evaluation of hematuria and LUTS. Out of which 54 patients were found red patches without obvious finding of tumor. Biopsy taken in all cases under general anesthesia and histopathology examination done and data analyzed.

**RESULTS –**

Out of 54 patients 20 cystoscopy done for features of LUTS and microscopic hematuria both, 8 had LUTS and 11 had microscopic hematuria alone. 11 Patients were evaluated for gross hematuria and 4 for recurrent urinary tract

infections. Demographic pattern showed 18. Females and 36 were male. Mean age group was 56.8 years (range 22–65 Years). On histopathological examination 4(7%) patients had carcinoma in situ. Only 1 patient is found to having malignant cells positive in urine cytology and in 3 patients no malignant cells present on cytology. After biopsy in 33 patients we found chronic inflammatory changes wherein 11 patients features of acute inflamed mucosa. In only 2 patients there were normal mucosa after biopsy of red patches.

**Table 1: summary of result of this study**

INDICA-TION FOR CYSTOS-COPY	SEX		CHRON-IC INFLAM-MATORY CHANG-ES	ACUTE INFLAM-MATORY CHANG-ES	CIS	OTH-ERS	NOR-MAL
	F	M					
LUTS with mi-croscopic hematuria	4	16	11	4	3	2	0
LUTS alone	3	5	6	1	1	0	0
Micro-scopic hematuria	3	8	5	2	0	2	2
Gross he-maturia	4	7	7	4	0	0	0
Recurrent UTI	4	0	4	0	0	0	0
<b>TOTAL</b>	<b>18</b>	<b>36</b>	<b>33</b>	<b>11</b>	<b>4</b>	<b>4</b>	<b>2</b>

**DISCUSSION –**

In our study only 2 patients with LUTShad red patch and showed no abnormality otherwise in 97% cases we found certain pathological diagnosis. Carcinoma in situ may be asymptomatic or may produce severe symptoms of urinary frequency, urgency and dysuria.<sup>2,3</sup>

About 20% of patients treated with cystectomy for diffuse carcinoma in situ are found to have microscopic muscle-invasive cancer<sup>2</sup>. So it is very necessary to take biopsy of red patches, which is symptomatic to rule out any sinister pathology. In our study we found that 4 out of 28(14%) patients presented with red patches had CIS on histopathology. The most common cause for a symptomatic red patch, however, is a chronic inflammatory infiltration as in other studies<sup>4</sup>. Six patients had 1 red patch, biopsies were performed and all had features of chronic inflammation. Benign-appearing urothelium in the lamina propria (Von Brunn's nest) was reported in 18 (54.54%) patients with chronic inflammatory changes. Urine cytology was positive for malignant cells only in one of these four patients. Hence, positive urine cytology in the presence of a red patch gives a 100% diagnosis of CIS in our limited study. Therefore, it is necessary to perform biopsy of a red patch at cystoscopy, especially in elderly patients with LUTS, even if the urine cytology is negative for malignant cells, because of the higher pick-up rate of CIS. It is also noteworthy that most common cause of symptomatic red patches were chronic inflammatory infiltration as supported by other studies.<sup>5</sup> In all, 11 (20%) patients who underwent cystoscopy biopsy of the red patch had features of acute inflammation in the specimen. It is interesting to note that no organisms were grown in cultures from any of these 8 patients at the time of presentation. Cinaet al<sup>6</sup> in their review showed a 100% correlation between cystoscopic impression and the histological diagnoses for 17 flat urothelial lesions. However, in this study, we could not detect CIS by cystoscopic appearance or symptoms alone. Although arguments against the routine use of cystoscopy as part of the evaluation for microscopic hematuria are being raised<sup>7</sup> here are still no strict guidelines for indications to perform cystoscopy in a patient with LUTS. There is debate that cystoscopy should routinely used in every case of asymptomatic hematuria as initial diagnostic procedure

even with flexible cystoscope as this is invasive procedure, however due to lingering possibility of malignancy many doctors prefers cystoscopy in cases of hematuria. Green et al<sup>8</sup> claimed that the cystoscopy should be performed in all cases of the patients who presented with microscopic hematuria without any discrimination according to the age of the patients and Howard et al<sup>8</sup> also concluded same findings. Also Itzchak et al<sup>10</sup> found that the bladder tumor under diameter 0.5cm is difficult to diagnose with ultrasonography and stressed for cystoscopy. Hattori et al noted in their study that in cases of bladder tumor patients cystoscopy is superior to IVU or cytology as diagnostic modality<sup>11</sup>. In one study murakami et al reported that even though urine analysis is less invasive method and can be repeated without any complication but due to its low rate of detection of low grade tumor cystoscopy is a vital part in surveillance<sup>11</sup>.

Cinaet al<sup>12</sup> in their review showed a 100% correlation between cystoscopic impression and the histological diagnoses for 17 flat urothelial lesions. However, in this study, we could not detect CIS by cystoscopic appearance or symptoms alone. Although arguments against the routine use of cystoscopy as part of the evaluation for microscopic haematuria are being raised<sup>13</sup>, there are still no strict guidelines for indications to perform cystoscopy in a patient with LUTS. In some studies use of fluorescent cystoscopy was used to diagnose CIS in co existing bladder carcinoma as a screening test to evaluate LUTA or microscopic haematuria but results were not satisfactory<sup>14</sup>. In their study of 262 men with LUTS or microscopic haematuria, Jichlinski et al<sup>15</sup> found that no patient had a bladder tumour detected using this modality that was not seen with white-light cystoscopy.

**CONCLUSION –**

In our study we found rate of detection of CIS in biopsy of de novo red patches 7%, which indicates biopsy should be done in every case inspite of negative urine cytology especially in elder patients (>60 years). It is therefore prudent to conclude, at the moment, that biopsy of de novo red patches is necessary to exclude the diagnosis of malignancy as urine cytology, cystoscopic impression of the lesion or fluorescence cystoscopy alone are not conclusive.

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