

Patients with previously untreated superficial tumour and a cystoscopically normal mucosa had a low incidence of abnormal biopsies, while patients with tumour recurrence after previous endoscopic treatment appears to have a higher incidence of mucosal abnormalities though a direct comparison between the groups has not been done in this study.

It is suggested that performing of multiple mucosal biopsies in patients with bladder cancer is a useful and safe procedure. It reveals an appreciable incidence of both widespread and occult carcinoma.

This information will alter a proposed course of treatment. In some cases multiple areas of urothelial abnormalities such as carcinoma in situ might suggest that total cystectomy could be performed rather than transurethral resection for a presumed solitary lesion while in other patients it will suggest that an intensive course of intravesical chemotherapy be used in addition to the surgical treatment for the observed tumour.

A high percentage of apparently normal mucosa is not histologically normal and this high incidence emphasizes that bladder cancer is a neoplastic process that often affects multiple areas of the urothelial surface<sup>12, 13</sup>.

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forceps from the normal appearing mucosa adjacent to the tumour along with random biopsy from cystoscopically normal mucosa at the bladder dome and just between the ureteral orifices. A single pathologist studied and graded all the biopsy specimens. The biopsies were read as normal, atypia and carcinoma in situ. All these patients had transitional cell carcinoma.

The patients were divided into two groups. Group I comprised of thirty cases, where bladder tumour was diagnosed for the first time. Group II comprised of twenty patients who were undergoing routine endoscopic follow up for bladder tumour already treated by endoscopic resection or fulguration.

### Results

Group I: 8 of the 30 patients (26.6%) had histological carcinoma from cystoscopically normal epithelium while another 6 (20%) showed atypia. 8 of these patients had grade I, 15 grade II, and 7 grade III & IV tumour (Table-1).

**Table # 1**  
**Random Biopsy Results**  
**(Group-I)**  
**30 Patients**

Tumour Grade	No. of Patients	Normal	Atypia	Carcinoma in situ	Carcinoma
I	8	5	1	1	1
II	15	9	3	1	2
III & IV	7	2	2	1	2
TOTAL:	30	16 (53.4%)	6 (20%)	3 (10%)	5 (16.6%)

Group II : 6 of the 20 patients (30%) revealed histological carcinoma from cystoscopically normal epithelium and in addition 4 (20%) showed atypia. 2 of these patients had grade I, 7 grade II and 11 grade III & IV tumour (Table-2). Often these patients did not have any visible tumour at the follow up cystoscopic session.

**Table # 2**  
**Random Biopsy Results**  
**(Group-II)**  
**20 Patients**

Tumour Grade	No. of Patients	Normal	Atypia	Carcinoma in situ	Carcinoma
I	2	1	—	0	1
II	7	4	1	1	1
III & IV	11	5	3	1	2
TOTAL:	20	10 (50%)	4 (20%)	2 (10%)	4 (20%)

Table 3 demonstrates the cumulative data of both the groups. It also reveals that with the increase in tumour grade the incidence of urothelial abnormalities also increases.

**Table # 3**  
**Random Biopsy Results**  
**(Cumulative Data)**  
**50 Patients**

Tumour Grade	No. of Patients	Normal	Atypia	Carcinoma in situ	Carcinoma
I	10	6	1	1	2
II	22	13	4	2	3
III & IV	18	7	5	2	4
TOTAL:	50	26 (52%)	10 (20%)	5 (10%)	9 (18%)

No bladder perforation occurred during the procedure of biopsy taking. However cautery haemostasis of the biopsy sites was done and thus ensured no haematuria postoperatively.

### Discussion

The overall results of this study have revealed a high incidence of abnormal histology from cystoscopically normal urothelium in the patients of carcinoma of bladder. It clearly demonstrates that the major aetiological process such as an exposure to a carcinogen implies an effect on the entire urothelial surface<sup>6, 7, 8</sup>. A number of other studies have also demonstrated the high incidence of urothelial abnormalities found in random biopsies from apparently normal mucosa on cystoscopic examination in the patients with carcinoma of the bladder<sup>8, 9, 10, 11, 12, 13</sup>.

## THE ROLE OF MULTIPLE MUCOSAL BIOPSIES IN THE EVALUATION OF BLADDER CANCER

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### Abstract

A prospective study was conducted on 50 patients with superficial transitional cell carcinoma of urinary bladder to determine the incidence of atypia and carcinoma in situ in selected site biopsies from apparently non-tumour bearing bladder mucosa. 48% of the biopsies from cystoscopically normal mucosa revealed histological abnormalities including 20% atypia and 28% carcinoma of the urinary bladder.

It is recommended that every patient with a neoplastic lesion of the bladder should have the benefit of multiple biopsies in order to ascertain the status of the bladder epithelium outside the area of visible tumour. It shall help in contemplating aggressive therapeutic measures in patients with diffuse and marked peripheral urothelial abnormalities.

*Key Words:* Bladder Cancer, Mucosal biopsies, urothelial atypia, urothelial carcinoma in situ.

### Introduction

Tumours of the urinary bladder are the second most common among the genitourinary neoplasms, prostate cancer being the first<sup>1</sup>. Although, the incidence varies in different countries, bladder cancer constitutes a world wide problem<sup>2</sup>. Many factors contribute to the lethality of bladder cancer, not least of which is relatively late diagnosis. Presently carcinoma of bladder is almost always diagnosed cystoscopically followed by histological confirmation. Risk of tumour recurrence after local resection or fulguration is about 50 to 70%<sup>(3,4)</sup>. Some recurrences are undoubtedly regrowths of an

incompletely destroyed primary tumour, known as residual tumour<sup>4</sup>. However, subsequent tumour seen at a new location has been explained by two possibilities. Tumour cell implantation in normal epithelium occurs during the time of primary electroresection or fulguration<sup>5,6</sup>. Secondly, multifocal areas of the bladder that cystoscopically look normal at the time of primary destruction in fact harbour foci of premalignant or malignant cells which eventually grow and produce a cystoscopically recognizable tumour.

A prospective study was undertaken in the Department of Urology, Mayo Hospital Lahore to study the problem of premalignant changes in the apparently normal mucosa and determine its role in the subsequent development of overt malignancy.

### Patients and Methods

Fifty patients with superficial bladder cancer were included in the study. Forty five were male and five female ranging from forty nine to seventy years of age with an average of sixty one.

Patients presenting with painless haematuria, renal pain, dysuria, frequency and urgency were picked up for further evaluation. A detailed history was taken followed by thorough clinical examination and laboratory investigations. These included urinalysis, TLC, DLC, ESR, Blood urea, creatinine and serum electrolytes estimation. Abdominal ultrasonography was done and the patients were then exposed to roentgenologic study. X-ray plain abdomen, chest and I.V.U. was done. The suspected cases were then subjected to cystoscopy and biopsy. Urothelium was closely inspected for apparent tumours, their location and pattern. Only superficial bladder tumours were included in the study. Biopsy specimens were obtained with the Storz biopsy

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