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Case Report

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SQUAMOUS CELL CARCINOMA OF URINARY BLADDER – A CASE REPORT

Dr. Vaibhav Kumar Goyal[1], Dr. Surendra Prakash Vyas[2], Dr. Dharm Chand Kothari*[3]

[1]MD, Department of Pathology, Sardar Patel Medical College, Bikaner.

[2]Associate Professor, Department of Pathology, Sardar Patel Medical College, Bikaner.

[3]MD, Department of Pathology, Sardar Patel Medical College, Bikaner.

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***Correspondence for Author**
Dr. Dharm Chand Kothari
MD, Department of Pathology, Sardar Patel Medical College, Bikaner.

ABSTRACT

Squamous cell carcinoma of bladder is uncommon tumor is defined as a malignant tumor derived from the urothelium that shows a pure squamous cell element. When urothelial elements (including urothelial carcinoma) are present the tumor should be classified as urothelial carcinoma with squamous differentiation. Almost all squamous cell carcinoma of the bladder are already advanced at the time of diagnosis so in general, the prognosis is poor. We report a case of pure squamous cell carcinoma (SCC) in a 55 year old chronic smoker patient who was present with urinary symptom. Diagnosis was confirmed by histopathological study.

KEYWORDS: squamous cell carcinoma, TURBT biopsy, urinary bladder.

INTRODUCTION

Primary squamous cell carcinoma of the bladder is a rare tumor, comprising 1% to 7% of all bladder cancers in the Western world.[1,2,] Males are more commonly affected in 6th to 7th decade.[3]

SCC most commonly association with Schistosoma hematobium and Schistosoma mansonii infection. Noninfectious causes include tobacco smoke and chronic inflammation of the bladder as caused by chronic indwelling catheters, neurogenic bladder, and bladder stones.[3] The risk of bladder cancer in smokers is 2-6 fold that of non-smokers.[4] Bladder exstrophy is also a risk factor.[3] Variant of SCC includes Basaloid squamous cell carcinoma, Verrucous carcinoma, Warty carcinoma[5]. Most squamous cell carcinomas are bulky, polypoid, solid,

necrotic masses, often filling the bladder lumen, although some are predominantly flat and irregularly bordered or ulcerated and infiltrating. The diagnosis of squamous cell carcinoma is restricted to pure tumours.[4]

Case study

55 year old chronic smoker male patient present to urology OPD with the chief complaints of haematuria and burning and strangury since 2 months. On per abdominal examination no organomegaly was found.

Per rectal examination was normal. On clinical ground urinary tract calculi or inflammation or tumor were suspected. Routine investigation of patient were normal except microcytic hypochromic anaemia. Urine microscopy found fulfilled RBC and few atypical epithelial cells.

X- ray KUB region showing growth in urinary bladder near triagone region. On USG hypoechoic mass was seen in urinary bladder. Urography was done and reveals an extensive irregular filling defect in the cystographic phase. Then patient underwent Cystoscopy which shows solid irregular mass measuring 4x3 cm attached to posterior wall of bladder. Transurethral resection of bladder tumor (TURBT) biopsy was done and sent for histopathological examination to our department.

Gross – Received several grey white soft tissue pieces collectively measuring 5x3.5 cm. Microscopy - Several sections were examined showing malignant squamous cells arranged in clusters and sheets. Cells were round to polygonal in shape with moderate pleomorphism with distinct cell membrane, moderate dense eosinophilic cytoplasm, hperchromatic pleomorphic nuclei. Few nucleus shows prominent nucleoli. Keratin pearls were seen in between the tumor cells.(Figure 1,2) Urothelial cells or glandular element was not seen. Evidence of Schistosoma haematobium infection absent in histopathology. Special stain Page green done showing orangophilia in the cells cytoplasm (Figure 3).

On clinicoradiological and histopathological examination a diagnosis of pure squamous cell carcinoma of urinary bladder was offered.

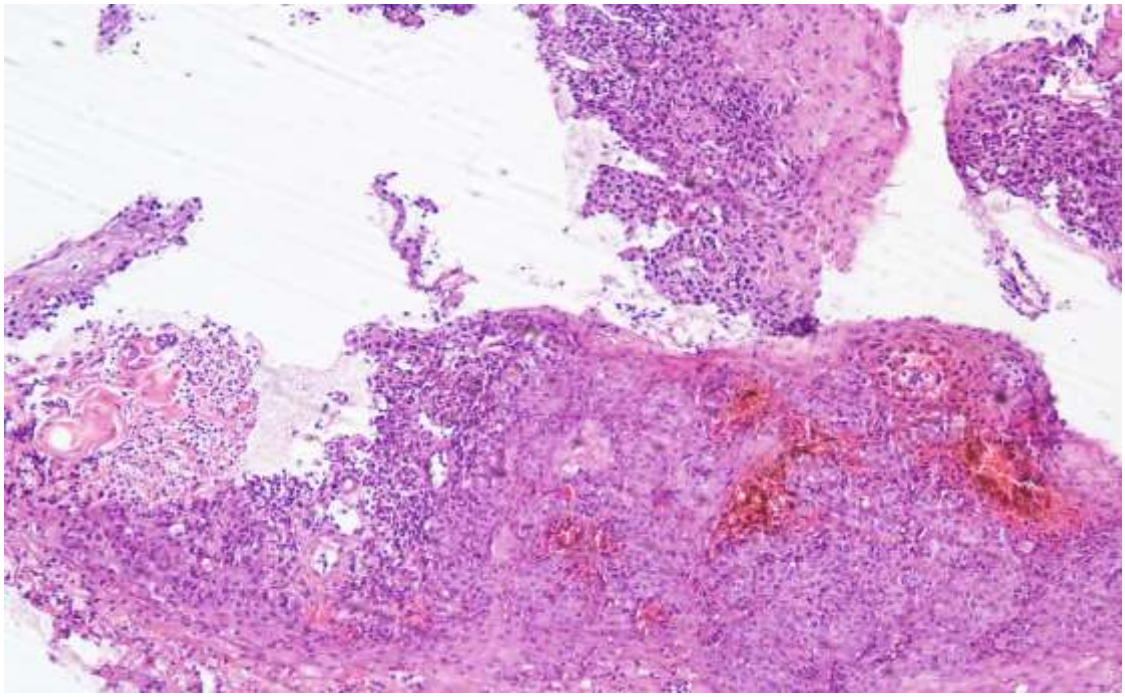

Figure 1: shows Moderately differentiated squamous cell carcinoma with haemorrhage and keratin pearls (H&E, 10x)

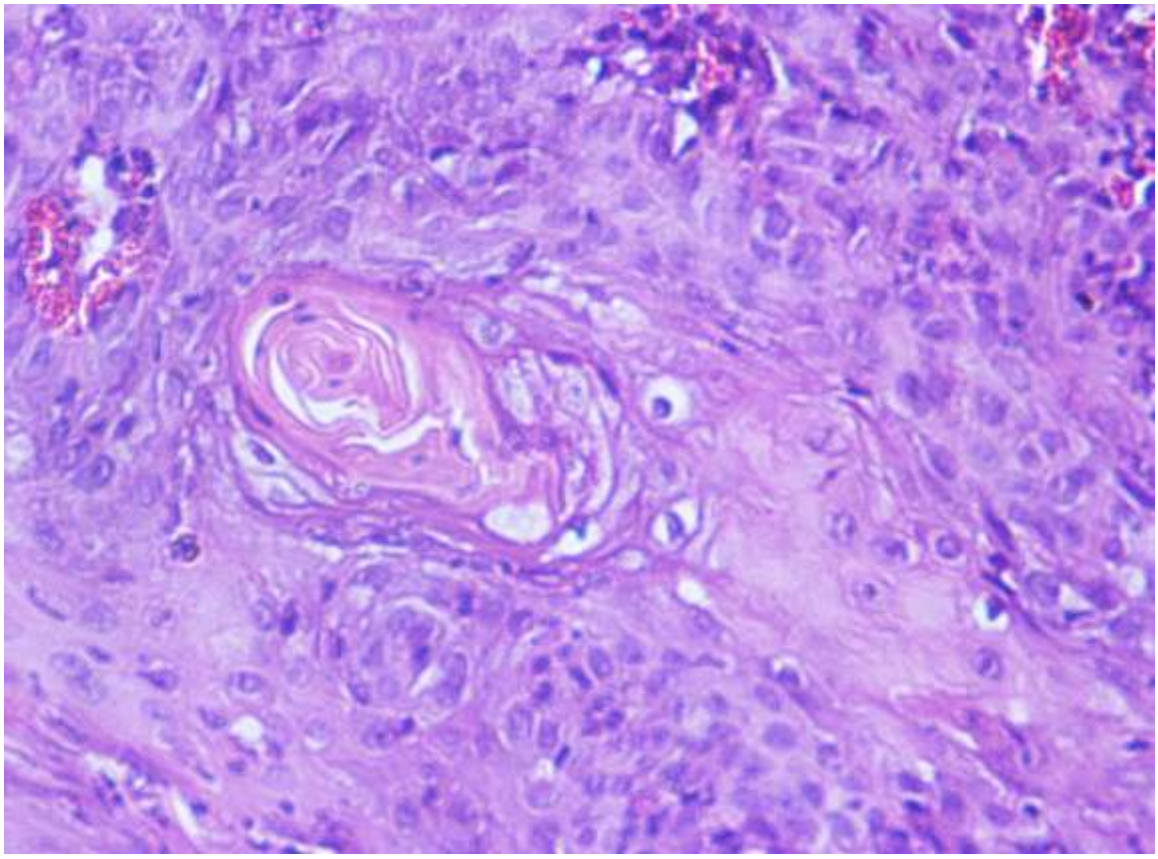

Figure 2: shows pleomorphic squamous cells with keratin pearls (H&E, 40x).

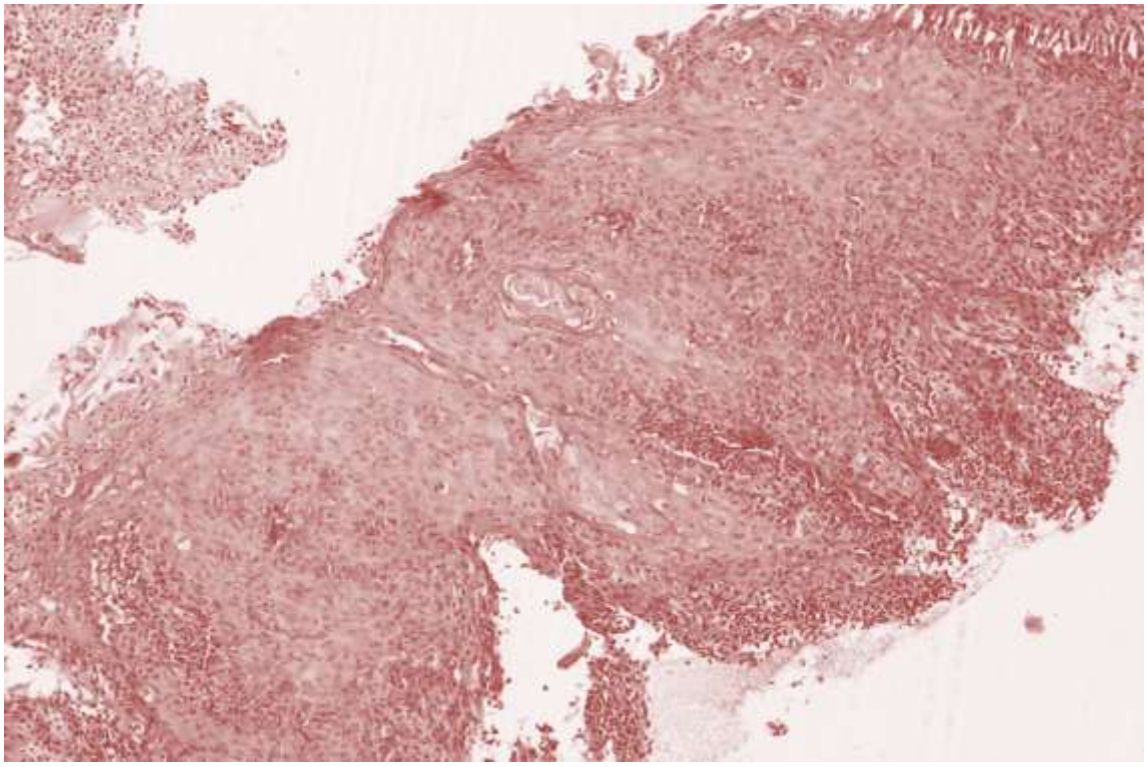

Figure 3: shows squamous cell carcinoma showing orangiophilia (Page green, 10x).

DISCUSSION

Pure squamous cell carcinoma of the bladder is an uncommon cause of bladder cancer in the developed world, accounting for 2- 7% of bladder cancers[11] while it is 40% in middle east (Egypt) due to endemicity of schistosmiasis where it is most common malignant tumor of bladder.[6,7]

Non schistosmiasis cases are usually associated with chronic infection, vesical stones, chronic indwelling catheters or bladder diverticula.[1]

Epidemiological studies have identified several risk factors for bladder cancer, including cigarette smoking and occupational exposures to aromatic amines. Coffee drinking has not been consistently related to bladder cancer risk, and Artificial sweeteners play little if any role. However, epidemiological studies of the uncommon histological types of bladder cancer have not appeared in the literature due to their rarity, with the exception of squamous cell carcinomas that may complicate severe longstanding cystitis, notably cases of schistosomiasis haematobium in endemic regions.[6]

SCC of bladder is common in old age male as shown by Atallah A. Shaaban et al, in their study mean age was 53.7±14.4 years and the male-to-female ratio was 4.2:1.[1]

During 1973-1977 in the United States, cancer of the urinary bladder accounted for 6.7% of all newly diagnosed cancers in men and 2.4% in women. Most bladder cancers were transitional cell carcinomas (95.1%), with small proportions of squamous cell carcinoma (2.7%) and adenocarcinoma (1.6%).[6]

Malignant potential of the exstrophied bladder mucosa is well known; 95% are adeno-carcinomas; and 3 to 5% are squamous cell carcinomas.[7]

There are four strategies to reduce deaths from squamous cell carcinoma of the bladder: prevention, early detection, the development of more effective therapies in selected cases with localized disease, and improved approaches to the management of advanced disease. Public education, elimination of the parasite by snail control and mass therapy of infected populations will help cancer prevention in the future.[1]

Bilharzial bladder cancer is a good example of a preventable malignant disease. Primary prevention is possible if the parasite could be eliminated nationwide by combining snail control and mass therapy of the infested rural population with oral antibilharzial drugs.[8]

Secondary prevention is also possible by early detection of the disease in the rural population using urine cytology. Selective screening of the high-risk group (farmers aged ≥ 20 years) was effective for the early detection of bilharzial bladder cancer, with a yield of two per 1000 individuals screened.[8]

Different methods have focused on investigating tumor cells in the urine and these have included conventional cytology, flow cytometry, ABO(H) cell surface isoantigens and quantitative fluorescent image analysis or detection of tumor products in urine, such as bladder tumor antigen test that detects the presence of basement membrane complexes in urine.[1]

Urine cytology is a specific, noninvasive technique which can be useful in the screening of high-risk groups in endemic bilharzial areas.[1]

The usefulness of flow cytometry as a screening test or as an initial diagnostic modality is limited due to the high frequency of diploid squamous cell cancers (30%) and inadequate information obtained in voided urine samples and bladder washings.[1]

Haematuria is the principal symptom, in 63–100% of patients, with irritative bladder symptoms in 33–67%. In 35% there is weight loss, back or pelvic pain or frank obstructive symptoms, all of which are suggestive of advanced disease.[8]

At cystoscopy most tumours are solitary, extensive and associated with leukoplakia. The sites occupied by the tumour are variable but there is a predilection for the trigon and lateral walls. Tumours are predominantly ulcerating and infiltrating but rarely fungating. The tumour may occupy a diverticulum and may also be associated with bladder stone.[8] Interestingly, SCC has a low incidence of distant metastasis, at 8–10%.[8]

Elen B Blochin[9] report two cases of urothelial carcinoma with prominent squamous differentiation associated with high-risk HPV arising in the setting of recurrent urinary tract infections and squamous metaplasia secondary to neurogenic bladder and prolonged catheterization. They hypothesize that repeated catheterization may have an important role in the viral transformation of the epithelium by creating an environment analogous to the cervical transformation zone. Their inability to identify HPV infection in four patients presenting in a similar clinical setting of neurogenic bladder, but with squamous cell carcinoma with prominent keratinization, indicates that urothelial and squamous tumorigenesis in this setting is not exclusive to HPV effect. It is possible that the basaloid morphology may be an important indicator of the viral status in the bladder as it is in other organs.[9]

SCC has distinctive clinicopathological features, which are different from those of TCC. These features include the late presentation, as 78.4% of nonbilharzial and 24, 91.6% of bilharzial patients present with T3 and T4 tumors. Morphologically, these tumors are either nodular, ulcerative, or infiltrative. Papillary lesions are very rare in both bilharzial and nonbilharzial tumors. There is a low incidence of nodal involvement, although the tumors are at advanced stages. Moreover, distant metastases in bilharzial and nonbilharzial SCCs are much lower in incidence than that reported for the TCC variety. Tumor stage, grade, and lymph node status are the most important prognostic factors that influence survival, local control, and distant spread of the disease. Other biological prognostic factors that may influence prognosis involve c-erB-2, p53, and EGF. Screening of patients at risk of SCC of the urinary bladder, aiming at early detection of the disease, is advisable. Repeated urine cytological examination for exfoliated malignant cells is a simple, noninvasive test with high specificity.[10]

Squamous cell carcinoma often presents at an advanced stage, and, until recently, it was unclear whether patients had a worse prognosis on a stage-for-stage basis when compared with patients with urothelial cancer. However, a recent study of the SEER database by Scosyrev and colleagues has shown that squamous cell carcinoma was more aggressive than urothelial cancer after adjusting for common prognostic factors, such as stage.[11]

Management of SCC of the urinary bladder should follow the same management as that of advanced muscle invasive TCC. Radical cystectomy with adjunctive radiotherapy is by far the most acceptable therapy for such tumors.[10]

CONCLUSION

Bladder squamous cell carcinoma and transitional cell carcinoma with squamous differentiation are not so common lesions. Although progress has been made in the field of non-invasive imaging and cystoscopy yet pathologist continue to diagnose SCC of bladder with histopathological analysis of biopsy material with potential markers or surrogate end points for SCC of bladder which are the mainstay of diagnosis and treatment.

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