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Case Report

Pathology Section

Primary Squamous Cell Carcinoma of Urinary Bladder – A Rare Histological Variant

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ABSTRACT

Primary squamous cell carcinoma of urinary bladder is a rare histological variant of epithelial bladder tumours. Histopathological types are associated with significant disease outcome, so it is essential to find, on microscopy the exact type of urothelial carcinoma. Herewith, we present a 70-year-old male having 3 months history of difficulty in micturition, reduced frequency of urine and associated pain. On Contrast Enhanced CT scan abdomen pelvis, showed irregular large urinary bladder mass with hydroureter and hydronephrosis. Internal iliac group of lymphnodes was enlarged. On histopathology diagnosed as pure squamous cell carcinoma of urinary bladder grade II with muscle invasion. We are presenting this case for its clinical, radiological and histopathological findings.

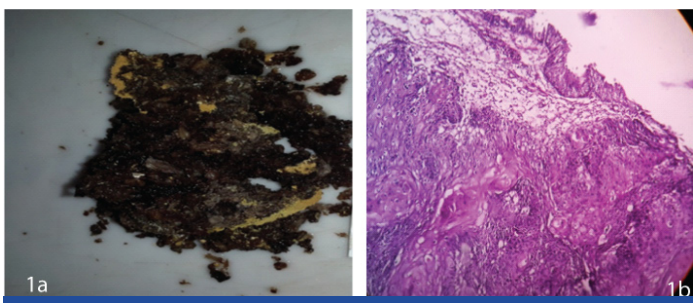
Keywords: Haematuria, Histopathology, Tumours of urinary bladder

CASE REPORT

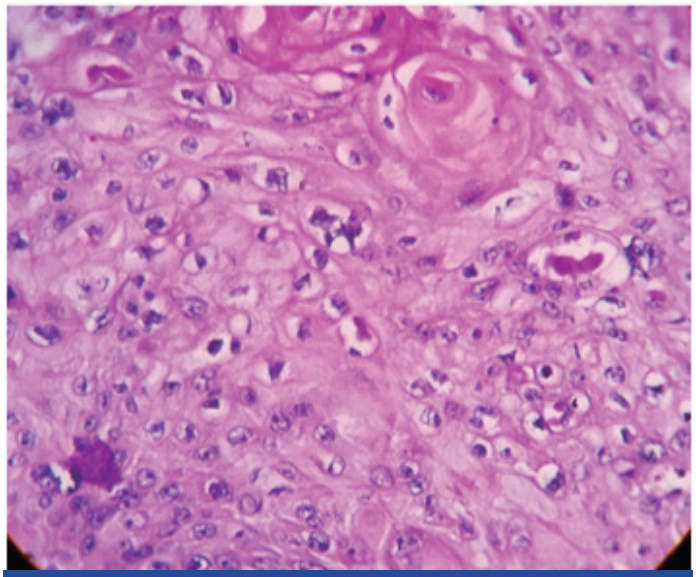
A 70-year-old Indian male patient presented in the Department of Urosurgery having history of decreased frequency of micturition, pain during micturition and gradually developing retention of urine for three months duration. There was no history of any systemic disease. Clinically suspected of benign prostatic hyperplasia. All haematological parameters were within normal limit. Urine analysis shows slightly hazy appearance with mild hematuria and pyuria. Radiological evaluation by Ultrasonography bladder showed irregular thickened urinary bladder wall and on Contrast Enhanced CT scan abdomen-pelvis showed distended urinary bladder measuring 9.5x9.5x8.8cm, wall showing well defined isodense to hyperdense, lobulated, non pedunculated mass lesion with irregular margins showing heterogeneous enhancement with multiple low alternating areas in mass lesion suggestive of necrosis.

Mass was extending all over bladder invading trigone and bilateral uretero-vesicular junction. Bilateral hydroureter and hydronephrosis was noted. Internal iliac group of lymph nodes were enlarged. Prostate was normal. Other abdominal and pelvic organs were normal. On radiology diagnosis was given as suggestive of malignant urinary bladder neoplasm with invasion of wall and iliac nodes. Patient underwent surgical procedure of transurethral resection of bladder tumour and was on chemotheraphy. On regular follow up patient is doing well.

On gross examination [Table/Fig-1a] showed multiple, irregular, grey white to grey brown pieces of tumour mass larger bit measuring 1.5x0.3x0.3 cm. Cut section was grey white with areas of necrosis and haemorrhage. Microscopic examination showed tumour composed of neoplastic squamous cells arranged in epithelial fronds and large sheets [Table/Fig-1b]. Individual cells were large polygonal having moderately pleomorphic



[Table/Fig-1a]: Showing gross image of urinary bladder tumour
[Table/Fig-1b]: Photomicrograph showing tumour composed of neoplastic squamous cells arranged in epithelial fronds and large sheets. [H&E stain, 100X]



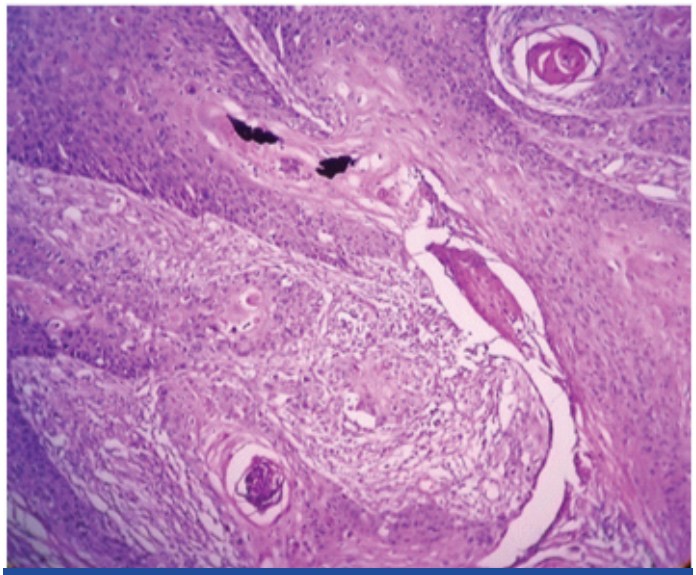
[Table/Fig-2]: Photomicrograph showing neoplastic squamous cell having moderately pleomorphic hyperchromatic to vesicular nuclei, occasional nucleoli and mild to moderate amount of eosinophilic cytoplasm. [H&E stain, 400X]

hyperchromatic to vesicular nuclei, occasional nucleoli & mild to moderate amount of eosinophilic cytoplasm [Table/Fig-2]. At places tumour was seen invading the muscle tissue. Numerous keratin pearls along with individual cell keratinisation was noted [Table/Fig-3].

Intervening stroma showed area of congestion, focal oedema, mucoid change and moderate diffuse mononuclear cell infiltration. On histopathology diagnosis was given as pure squamous cell carcinoma of urinary bladder with muscle invasion well to moderately differentiated, Grade II. According to WHO/ USIP classification of tumours of urinary tract 2004 our case is invasive neoplasm – squamous cell carcinoma of grade II and stage T2N1M1.

DISCUSSION

Squamous cell carcinoma of urinary bladder is a rare malignancy in the United States, accounting for 1-3% of all bladder tumours [1]. As per the global cancer statistics the bladder cancer incidence is variable in geographic areas which stated that in developed countries incidence is 16.6%, while in less developed countries incidence is 5.4% [2]. It also suggested that social, occupational, environmental or dietary factors are promoting the development of bladder cancer. Approximately 90% of all epithelial tumours of the



[Table/Fig-3]: Photomicrograph showing keratin pearls along with individual cell keratinisation. [H&E stain, 100X]

bladder are transitional cell tumours. The clinical and aetiological factors associated for development of bladder carcinoma are variable. Unlike transitional cell carcinoma which are mostly papillary and non ulcerating, most squamous cell carcinoma of the bladder are sessile, nodular, ulcerating and infiltrating. Primary squamous cell carcinoma of the bladder is a relatively rare tumour [2]. It is the most common malignant tumour in men where infection with schistosomiasis [3] is prevalent and is responsible for approximately 50% of all bladder cancer [2,3]. However, squamous cell carcinoma is less common in North America and constitute about 3-5% of bladder cancer [4].

The association between chronic bladder irritation and squamous cell carcinoma has been postulated, which include chronic or recurrent urinary tract infection, chronic in dwelling urinary catheter, neurogenic bladder, bladder calculi, foreign bodies, prolonged exposure to cyclophosphamide [5], extrophy of urinary bladder [6]. In present case there was history of repeated urinary tract infection. Most of the patient with squamous cell carcinoma of the bladder presents with haematuria. In our patient he did not had gross haematuria. Less common presenting symptoms can include irritative bladder symptoms, urinary obstruction and weight loss.

The squamous cell carcinoma are graded into well, moderate or poorly (high grade) differentiated. The findings of squamous metaplasia as well as squamous cell carcinoma in situ along with pure squamous cell carcinoma are helpful to determine that a tumour is a true primary squamous cell carcinoma of urinary bladder. On histopathology the most of squamous cell carcinoma of bladder are of high grade with muscle invasion. For final diagnosis of the pure squamous cell carcinoma thorough sampling should be performed to exclude the presence of an invasive high grade urothelial carcinoma component. If the later component is there then it is labelled as high grade urothelial carcinoma with squamous differentiation. Similarly presence of metastatic squamous cell carcinoma should be carefully ruled out. The majority of bladder squamous cell carcinoma are high grade, high stage tumour with most cancers having muscle invasion at the time of diagnosis. Our case showed moderate grade squamous cell carcinoma with muscle invasion and on radiological evaluation showed internal iliac group of nodal involvement. According to WHO/ISUP classification [7] of tumours of urinary bladder 2004, our case is invasive neoplasm-squamous cell carcinoma grade II and stage T2N1M1. Treatment of localised disease is usually surgical resection, since this tumour may be resistant to chemotherapy and radiotherapy [8]. Prognosis for patients with squamous cell carcinoma of the bladder is poor, reported 5 year survival is 33-48% [9]. A case of primary squamous cell carcinoma of urinary bladder presenting as peritoneal carcinomatosis was reported by Himisha Beltran [10], While Serretta V reported 19 consecutive cases in western countries [4].

CONCLUSION

Several histological variant of urinary bladder cancer has been expanded. The recognition of this rare type is important to guide clinician for appropriate therapeutic management of such patients.

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