

Primary non-bilharzial Squamous Cell Carcinoma of Urinary Bladder: An interesting report of two cases

Aarti Gogia¹, Mohammad Jaseem Hassan^{2*}, Sabina Khan³, Zeeba Shamim Jairajpuri⁴, Sujata Jetley⁵

¹Demonstrator, ^{2,3,4}Associate Professor, ⁵Professor, Dept. of Pathology, HIMSR, Jamia Hamdard, New Delhi

***Corresponding Author:**
Email: jaseemamu@gmail.com

Abstract

Bladder cancer is the most common malignancy of urinary tract. Urothelial carcinoma accounts for 90-95% of bladder cancers and rest 5-10% includes other epithelial and mesenchymal tumors. Squamous cell carcinoma is a very uncommon malignancy of urinary bladder and accounts for only 1-3% of all bladder cancers. Squamous cell carcinoma can be classified as bilharzial and non bilharzial associated depending on epidemiology, pathogenesis, and clinicopathological characteristics. Here we present two cases of non bilharzial Squamous cell carcinoma in 73 years and 85 years old male patients who presented with decreased frequency and pain during micturition and painless Hematuria respectively. On computed tomography bladder wall thickening was reported in both the cases. Transurethral resection of bladder tumour was done and histopathological evaluation confirms the diagnosis of well differentiated Squamous cell carcinoma in both the cases with muscle invasion in the second case. Both the patients are on regular follow up and doing fine for last six months and four months respectively.

Keywords: Bilharziasis, SCC, Urinary bladder, TURBT, Cancer

Manuscript Received: 22nd March, 2017

Manuscript Accept: 23rd May, 2017

Introduction

Bladder cancer is the most common malignancy of urinary tract.⁽¹⁾ Bladder cancer are classified as conventional urothelial carcinoma, urothelial carcinoma with divergent differentiation and nonurothelial carcinoma.⁽¹⁾ Divergent differentiation includes association of urothelial carcinoma with other histological patterns like squamous cell carcinoma, adenocarcinoma, micropapillary carcinoma and neuroendocrine on the basis of percentage of associated pattern.⁽²⁾ Non urothelial bladder cancer includes adenocarcinoma, squamous cell carcinoma, carcinosarcoma, neuroendocrine tumor.⁽³⁾ Squamous cell carcinoma can be classified as bilharzial and non bilharzial associated depending on epidemiology, pathogenesis, and clinicopathological characteristics.⁽¹⁾ Urothelial carcinoma accounts for 90-95% of bladder cancers and rest 5-10% includes other epithelial and mesenchymal tumors.⁽²⁾ Squamous cell carcinoma is a very uncommon malignancy of urinary bladder and accounts for only 1-3% of all bladder cancers.⁽⁴⁾

Case Report

Case 1: A 73 years old male patient presented to Department of Urology with complains of decreased frequency and pain during micturition for two months. Urine analysis showed hematuria. Haematological investigations were within normal limit. Rest of the systemic examination was within normal limit. Radiological examination by ultrasonography showed focal irregular thickening of bladder wall and on computed tomography scan (CT scan), there was focal, irregular thickening of anterior wall of the urinary bladder. Patient underwent surgical procedure of

transurethral resection of bladder tumour. On gross examination, multiple pale white to brownish tissue pieces were received collectively measuring 7.5x7 cm. The entire tissue was processed. On microscopic examination, nest and sheets of malignant squamous cells and keratin pearl were seen along with large areas of necrosis. Cells were enlarged containing abundant eosinophilic cytoplasm, highly pleomorphic, with a large hyperchromatic nucleus with high N/C ratio and coarse chromatin. Fair number of bizarre pleomorphic nuclei was also seen. Muscle invasion was not seen. A final diagnosis of Primary Squamous cell carcinoma of urinary bladder without muscle invasion was made on the basis of above findings. The patient is on regular follow up and doing fine for last six months.

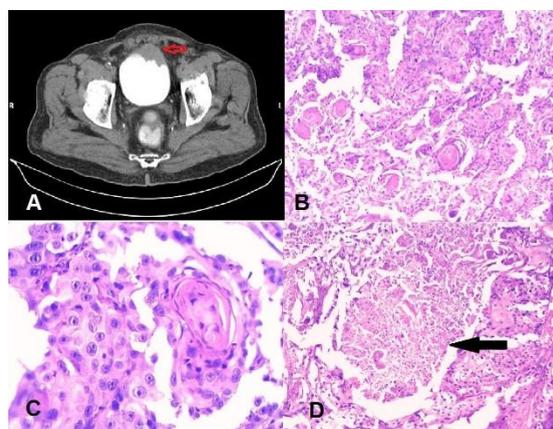


Fig. 1: A- Computed Tomography imaging showing irregular thickening of anterior wall of the urinary bladder (red arrow). B&C- Nests and sheets of malignant squamous cells with presence of keratin

pearls. (H&E x 40, H&E x 100). D- Areas of necrosis (Black arrow). (H&Ex40)

Case 2: 85 years old male patient presented to Department of Urosurgery with complains of painless hematuria for 1 month. There is past history of repeated urinary tract infection. Urine analysis revealed brown colored urine with marked hematuria. Haematological investigations were within normal limit. On systemic examination, rest of the systems were within normal limit. Radiological examination by CT scan showed nodular growth on left postero-lateral aspect of bladder wall. Patient underwent surgical procedure of transurethral resection of bladder tumour. On gross examination, multiple gray brown tissue pieces received collectively measuring 5x 4.5cm. On microscopic examination, nests and sheets of malignant squamous cells along with keratin pearls were seen. Large areas of necrosis were seen. On high power, cells were enlarged, highly pleomorphic with increased N/C ratio and hyperchromatic, pleomorphic nucleus. Atypical mitosis was also seen. Muscle bundles were infiltrated by malignant cells. Areas of normal appearing transitional epithelium were also seen. On the basis of above findings, a final diagnosis of Primary Invasive Squamous Cell Carcinoma of bladder was made on histopathological examination. The patient is on regular follow up and doing fine for last four months.

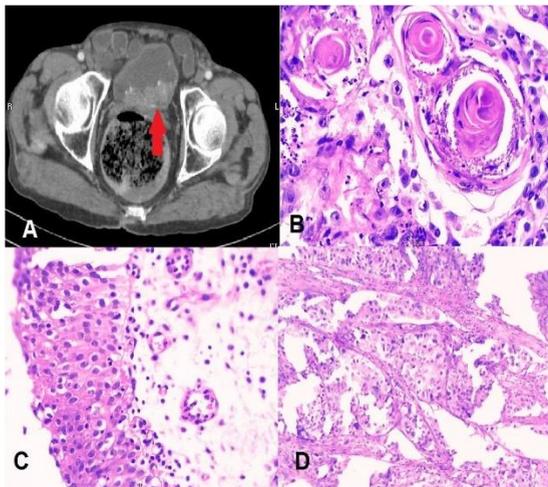


Fig. 2: A-Computed Tomography imaging showing nodular growth on left postero-lateral aspect of bladder wall (Red arrow). B- Sheets of malignant squamous cells with well-formed keratin pearls (H&Ex100). C- Area of normal appearing transitional epithelium (H&E x100). D- Muscle bundles infiltrated by malignant cells. (H&E x 40)

Discussion

Squamous cell carcinoma is a rare malignancy of urinary bladder and its incidence varies in different geographical areas. Squamous cell carcinoma can be

classified as bilharzial and non bilharzial on the basis of geographical distribution.⁽¹⁾ Both of our patients were residents of non-endemic areas for schistosomiasis infection and there was no history of any of their visits to endemic areas of schistosomiasis. In male patients infected with schistosomiasis, it is the most common malignant tumour and is responsible for approximately 50% of all bladder cancer in such cases.⁽⁵⁾ Etiology postulated for Bilharzial squamous cell carcinoma is chronic infection with urinary schistosomiasis.⁽⁵⁾ For non bilharzial squamous cell carcinoma, postulated etiology includes chronic or recurrent urinary tract infection, bladder calculus, chronic in dwelling urinary catheter and foreign bodies.⁽⁴⁾ One of our cases had history of repeated urinary tract infection in past. No other etiological factor for pathogenesis could be traced in other case. Clinical presentation of squamous cell carcinoma of bladder is generally painless Hematuria.⁽⁴⁾ Other uncommon presentations include irritative bladder symptoms and urinary obstruction.⁽⁴⁾ Both of our patients had hematuria on urine examination. One of them also had complains of decreased frequency and pain during micturition. On histopathology, squamous cell carcinoma can be graded into well, moderate and poorly differentiated.⁽⁴⁾ Both of our cases were well differentiated squamous cell carcinoma. On histopathology, squamous cell carcinoma of bladder must be differentiated from transitional cell carcinoma with squamous differentiation by thorough sampling.^(4,6) Both of our cases underwent transurethral resection of bladder tumor and whole of the specimen was processed to rule out any focus of transitional cell carcinoma and hence a diagnosis of primary squamous cell carcinoma was made. Presence of any metastatic squamous cell carcinoma was ruled out by thorough systemic examination in both cases. Most of the squamous cell carcinoma of bladder are high grade, aggressive, showing muscle involvement and have poor prognosis.^(1,5,6) Both of our cases were high grade, one of them showed muscle involvement. Squamous cell carcinoma of bladder is resistant to chemotherapy and radiotherapy, hence for localised disease surgical resection is treatment of choice.⁽⁷⁾

Conclusion

Several histological variants of squamous cell carcinoma have been reported. Recognition of this rare type is essential for better management of these cases as their clinical outcome and treatment is different from transitional cell carcinoma.

References

1. Arslan B, Bozkurt IH, Yonguc T, Vardar E, Degirmenci T, Kozacioglu Z, et al. Clinical features and outcomes of nontransitional cell carcinomas of the urinary bladder: Analysis of 125 cases. *Urol Ann* 2015;7(2):177-82.
2. Gluck G, Hortopan M, Stanculeanu D, Chirita M, Stoica R, Sinescu I. Comparative study of conventional urothelial carcinoma, squamous differentiation carcinoma

- and pure squamous carcinoma in patients with invasive bladder tumors. *J Med Life*. 2014;7(2):211-4.
3. Ravi K, Kumar T, Bakshi H, Desai J, Sen S, Yadav V. Non Urothelial Bladder Cancers: A Case Series. *Indian J Surg Oncol*.2013;4(1):2-8.
 4. Jagtap SV, Sarda SD, Demde RB, Huddedar AD, Jagtap SS. Primary Squamous Cell Carcinoma of Urinary Bladder – A Rare Histological Variant. *JCDR*. 2015;9(11):6746.
 5. EI Bolkainy MN, Mokhtar NM, Ghoneim MA, Hussein MH. The impact of schistosomiasis on the pathology of bladder carcinoma. *Cancer*. 1981;48(12):2643-48.
 6. Manunta A, Vincendeau S, Kiriakou G, Lobel B, Guille F. Non transitional cell bladder carcinomas. *BJU Int*. 2005;95(4):497-502.
 7. Rogers CG, Palapattu GS, Shariat SF, Karakiewich PI, Bastian PJ, Lotan Y et al. Clinical outcome following radical cystectomy for primary non transitional cell carcinoma of the bladder compared to transitional cell carcinoma of the bladder. *J Urol* 2006;175(6):2048- 53.