

## Primary Small Cell Carcinoma of the Urinary Bladder Coexists High Grade Urothelial Carcinoma: A Rare Malignant Tumor

Mazaher Ramezani<sup>1</sup>, Rezvan Mansouri<sup>2</sup>, Masoud Sadeghi<sup>3\*</sup>

<sup>1</sup>Molecular Pathology Research Center, Emam Reza Hospital, Kermanshah University of Medical Sciences, Kermanshah, Iran

<sup>2</sup>Students Research Committee, Kermanshah University of Medical Sciences, Kermanshah, Iran

<sup>3</sup>Medical Biology Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

### \*Corresponding author

Masoud Sadeghi

Email: [sadeghi\\_mbrc@yahoo.com](mailto:sadeghi_mbrc@yahoo.com)

**Abstract:** Primary small cell carcinoma of the bladder (SCCB) is a type of rare malignant tumor of the urinary tract, accounting for around 0.5–1% of all primary bladder cancers. We reported a 79-year-old jobless man that referred to the Urologist with gross hematuria, retention and dysuria. He had a history of dyspnea infrequently and diabetes. Sonography was done which showed 54x30 mm mass in right lateral urinary bladder wall with extension to the right ureterovesical junction. There was a large papillary and infiltrative mass in the right lateral wall of the urinary bladder with right Ureterovesical junction (UVJ) involvement. The pathology report showed "High grade papillary urothelial carcinoma (WHO/ISUP), grade IV/IV associated with small cell carcinoma. SCC was present in 20% of surface area. In summary, SCCB is a type of aggressive rare malignant tumor that occurs more in elderly men and hematuria is the common complaint in these patients at the first visit.

**Keywords:** Hematuria, Small cell carcinoma, Urothelial carcinoma.

### INTRODUCTION

Primary small cell carcinoma of the bladder (SCCB) is a type of rare cancer of the urinary tract [1-3] that accounts for around 0.5 to 1% of all primary bladder tumors [1, 4, 5]. The first case of a primary SCC of the bladder was reported in 1981 [6]. SCCB develops more frequently in older men, with hematuria as the most common presenting symptom [4]. It behaves aggressively, often with locally advanced or metastatic disease at the time of presentation [7]. SCCB has similar characteristics (age, sex, and symptoms) to urothelial carcinoma or *transitional cell cancer* (TCC) and is more rare and aggressive than TCC [8]. Herein, we describe one case with primary SCC associated with TCC in the West of Iran for the first time.

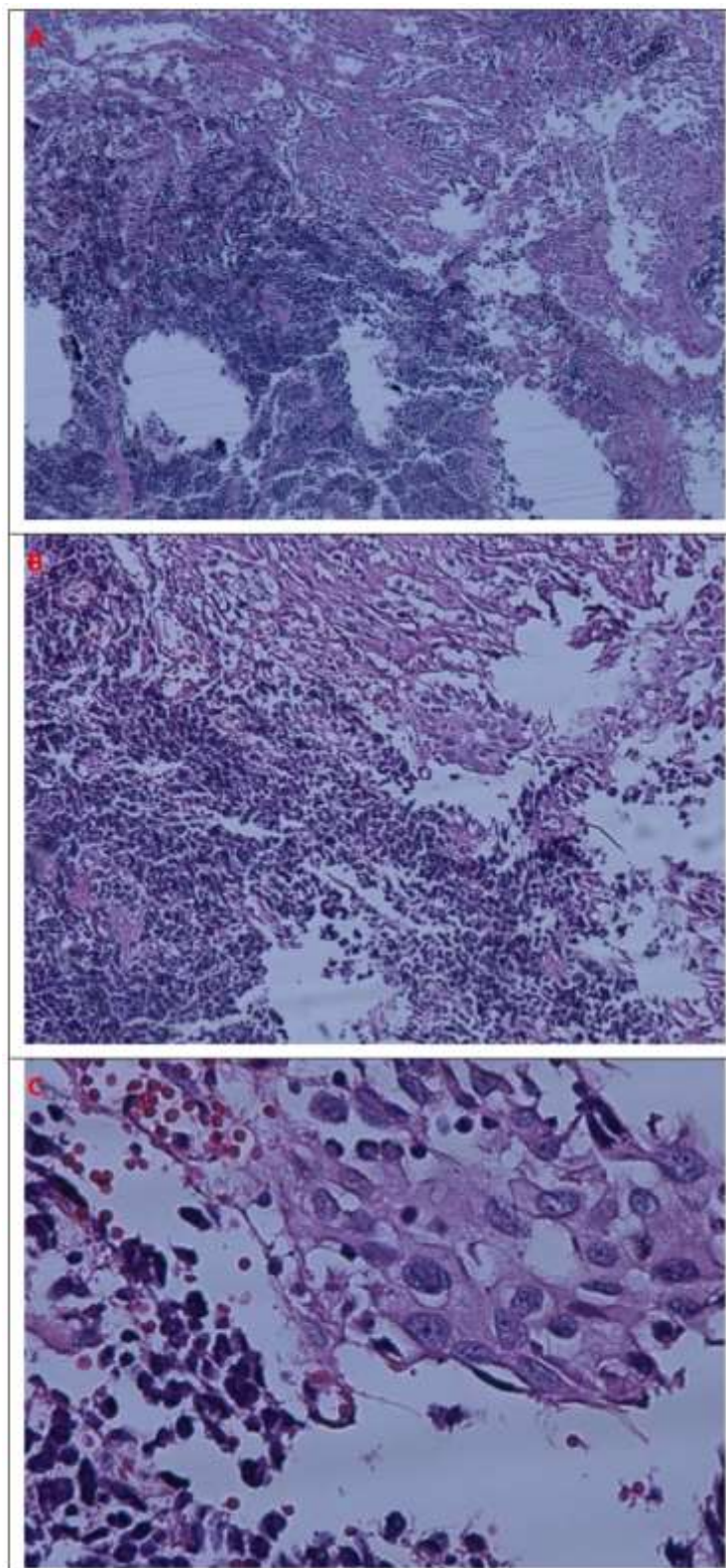
### CASE REPORT

A 79-year-old jobless man referred to the Urologist on May 7, 2016 with gross hematuria, retention and dysuria since last month. There was no history of weight loss. Past medical history showed a known case of diabetes mellitus under treatment with metformin. He had a history of dyspnea infrequently. His cigarette smoking had stopped 27 years ago. His physical examination was normal except for the firm (1+) prostate in digital rectal exam. In lab data Urea and Cr were 45 and 1.2 mg/dl, respectively. Sonography was done which showed 54x30 mm mass in right lateral urinary bladder wall with extension to the right ureterovesical junction. Mild hydronephrosis in right

kidney with no obstruction was also detected. Cystoscopy was done. There was a large papillary and infiltrative mass in the right lateral wall of the urinary bladder with right Ureterovesical junction (UVJ) involvement. Transurethral resection of bladder (TUR-B) was done, but there was no possibility of being tumor free. The specimen was sent for pathologic examination, which consists of fragments of creamy brown soft tissue totally measuring 5x5x2cm. The pathology report showed "High grade papillary urothelial carcinoma (WHO/ISUP), grade IV/IV associated with SCC" (Figure 1). Muscularis propria was involved by tumor. Perineural and vascular invasion was present. SCC was present in 20% of surface area. In follow-up of the patient, he was admitted in hospital on May 15, 2016 with a chief complaint of abdominal pain and clinical diagnosis of urinoma. CT-Scan of abdomen and pelvis was done and significant findings were: Large diverticulum (38 mm) between the second and third portion of duodenum adjacent to head of pancreas, large tumoral mass (51x35 mm) in right postero-lateral region of bladder Trigon with extension to perivesical fat and involvement of right UVJ with moderate dilation of pyelocalyceal system and ureter. There was evidence of urinary extravasation in right upper renal sinus from the infundibulum of upper calyces to retroperitoneum. The contrast of extravasation was extended from right ureter to distal portion passing the midline inferior to the third portion of duodenum and extending to left anterior

para-renal space. The findings were in favor of right pyelocalyceal system rupture secondary to hydronephrosis. Urinoma was measured 147x50 mm located in the anterior and left of aortic bifurcation with

extension to perisacral and pelvic space in distal. Sonography-guided aspiration of urinoma was done. In the third admission on June 1, 2016 right nephrostomy was done.



**Fig-1: High grade papillary urothelial carcinoma (Right side) associated with small cell carcinoma (Left side), [H&E Staining , A-X40, B-X100, C-X400 magnification]**

**DISCUSSION**

SCCB is very rare and accounts for less than 0.7% of all malignancies arising from the bladder [9]. It most commonly occurs on the lateral walls (54%), followed by the posterior wall (20%), trigone (10%), dome (8%) and anterior wall (8%) [10] and generally occurs in older males; the majority of patients develop painless gross hematuria (90%) and a few exhibit symptoms of bladder irritation [1]. One study analyzed 20 cases (16 males and 4 females) of SCCB complicated by transitional cell carcinoma. Patients ranged in age from 58 to 83 years of age, with a mean age of 69 years. Ten patients were pathological stage pT2; nine were pathological stage pT3; and one was

pathological stage pT4 [11]. Holmang *et al.* [12] described 25 patients with primary SCC of the bladder. The mean age at diagnosis was 71.2 years (range, 54-78 years) that there were 18 men (72%) and the presenting symptom was hematuria in most cases. Out of 25 patients, 7 had stage T2, 10 stage T3, 2 stage T4 tumors and 6 patients had metastatic disease at diagnosis. Table 1 shows the mean age of cases with SCCB is 67.8 years (range, 29-82 years) that 69.2% are men [1-3, 9, 13-19]. Gross hematuria is the common complaint in the patients in the first visit. All patients had right bladder involvement. Status of grade, stage and metastasis has been shown in Table 1.

**Table 1: The case reports of small cell carcinoma of the urinary bladder with characteristics of bladder cancer**

References	Age	Sex	Symptoms	Laterality	Grade	Stage	Metastasis	Country
[1]	82	Male	Dysuria and painless gross hematuria	-	-	-	-	China
[2]	53	Male	-	Right	-	T2	-	-
[3]	71	Male	Gross hematuria		4	T2	No	Japan
[3]	79	Female	Gross hematuria		4	T1b	No	Japan
[9]	52	Male	Right pelvic pain, multiples episodes of gross hematuria, dysuria, and extreme fatigue	Right	-	T2	Yes	Morocco
[13]	72	Male	Gross hematuria	Right	-	-	-	Japan
[14]	29	Female	Gross hematuria	Right	2	T2	-	Japan
[15]	69	Female	Gross hematuria	Right	1-2	T1	Yes	Japan
[16]	78	Male	Gross hematuria	Right	2	-	Yes	Japan
[17]	74	Female	Pollakiuria	Right	3	Tis-T1	Yes	Japan
[18]	78	Male	Gross painless intermittent hematuria	Right	3	T1	Yes	Greece
[19]	65	Male	Hematuria	Right	4	-	Yes	Turkey
The present case	79	Male	Gross hematuria, retention and dysuria	Right	4	-	-	Iran

**CONCLUSION**

SCCB is a type of aggressive rare malignant tumor that occurs more in elderly men. Hematuria is the common complaint in these patients at the first visit.

**REFERENCES**

1. Ou WT, Liang QL, Huang X, Li ZY, Liu QL. Small cell carcinoma of the urinary bladder: A case report and review of the literature. *Oncol Lett*. 2015;9(1):488-90.
2. Roy C, Deb AR, Pal M, Das D, Mandal A, Mukhopadhyay S. Small cell carcinoma of the urinary bladder: a case report and review of the literature. *J Indian Med Assoc*. 2014;112(1):57-9.
3. Yamaguchi T, Imamura Y, Shimamoto T, Kawada T, Nakayama K, Tokunaga S, et al. Small cell carcinoma of the bladder. Two cases diagnosed by urinary. *Acta Cytol*. 2000;44(3):403-9.
4. Blomjous CE, Vos W, De Voogt HJ, Van der Valk P, Meijer CJ. Small cell carcinoma of the urinary

- bladder: a clinicopathologic, morphometric, immunohistochemical, and ultrastructural study of 18 cases. *Cancer*. 1989;64(6):1347-57.
5. Zhao X., Flynn E. A. Small cell carcinoma of the urinary bladder: a rare, aggressive neuroendocrine malignancy. *Archives of Pathology and Laboratory Medicine*. 2012;136(11):1451-9.
6. Cramer SF, Aikawa M, Cebelin M. Neurosecretory granules in small cell invasive carcinoma of the urinary bladder. *Cancer*. 1981;47(4):724-30.
7. Cheng L, Pan C, Yang XJ, Lopez-Beltran A, MacLennan GT, Lin H, et al. Small cell carcinoma of the urinary bladder: a clinicopathologic analysis of 64 patients. *Cancer*. 2004;101(5):957-62.
8. Mazzucchelli R, Morichetti D, Lopez-Beltran A, Cheng L, Scarpelli M, Kirkali Z, et al. Neuroendocrine tumours of the urinary system and male genital organs: clinical significance. *BJU International*. 2009;103(11):1464-70.

9. Ismaili N, Ghanem S, Mellas N, Afqir S, Taleb M, Amrani M, et al. Small cell carcinoma of the urinary bladder: a case report and review of the literature. *J Cancer Res Ther.* 2009;5(2):133-6.
10. Abbas F, Civantos F, Benedetto P, Soloway MS. Small cell carcinoma of the bladder and prostate. *Urology.* 1995;46(5):617-30.
11. Cheng L, Jones TD, McCarthy RP, Eble JN, Wang M, MacLennan GT, et al. Molecular genetic evidence for a common clonal origin of urinary bladder small cell carcinoma and coexisting urothelial carcinoma. *Am J Pathol.* 2005;166(5):1533-9.
12. Holmäng S, Borghede G, Johansson SL. Primary small cell carcinoma of the bladder: a report of 25 cases. *J Urol.* 1995(6);153:1820-2.
13. Hirayama T, Matsumoto K, Kurosaka S, Muramoto M, Irie A, Iwamura M, et al. [A case report: small cell carcinoma transformed from transitional cell carcinoma of the urinary bladder]. *Hinyokika Kyo.* 2006;52(8):633-5.
14. Kato Y, Hasegawa Y, Wakita T, Hayashi N. [A young patient with invasive small cell carcinoma of the urinary bladder: a case report]. *Hinyokika Kyo.* 2005;51(4):287-9.
15. Okuda H, Tei N, Nakamura Y, Shimizu K, Yoshimura K, Kiyohara H. [Case report: a case with small cell carcinoma of the bladder transformed from urothelial carcinoma]. *Hinyokika Kyo.* 2008;54(4):285-7.
16. Kuromatsu I, Hayashi N, Yanagawa M, Tochigi H, Kawamura J. [Combined small cell and transitional cell carcinoma of renal pelvis: a case report]. *Hinyokika Kyo.* 1995;41(1):47-50.
17. Yokoyama S, Tsutahara K, Fukuhara S, Mori N, Hara T, Yamaguchi S, et al. [Small cell carcinoma of the urinary bladder: a case report]. *Hinyokika Kyo.* 2005;51(6):403-5.
18. Kozyrakis D, Papadaniil P, Stefanakis S, Pantazis E, Grigorakis A, Petraki K, et al. Small cell carcinoma of the urinary tract: a case report. *Cases J.* 2009;2:7743.
19. Çamtosun A, Çelik H, Altıntaş R, Akpolat N. Primary Small Cell Carcinoma in Urinary Bladder: A Rare Case. *Case Rep Urol.* 2015;2015:789806.