

## Organ Sparing Surgery for Carcinosarcoma of the Urinary Bladder Diverticulum

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Croatia Received December 12, 2017; Accepted December 20, 2017; Published February 21, 2018

**Keywords:** Bladder Diverticulum, Carcinosarcoma, Computed Tomography, Diverticulectomy, Chemotherapy, Radiotherapy

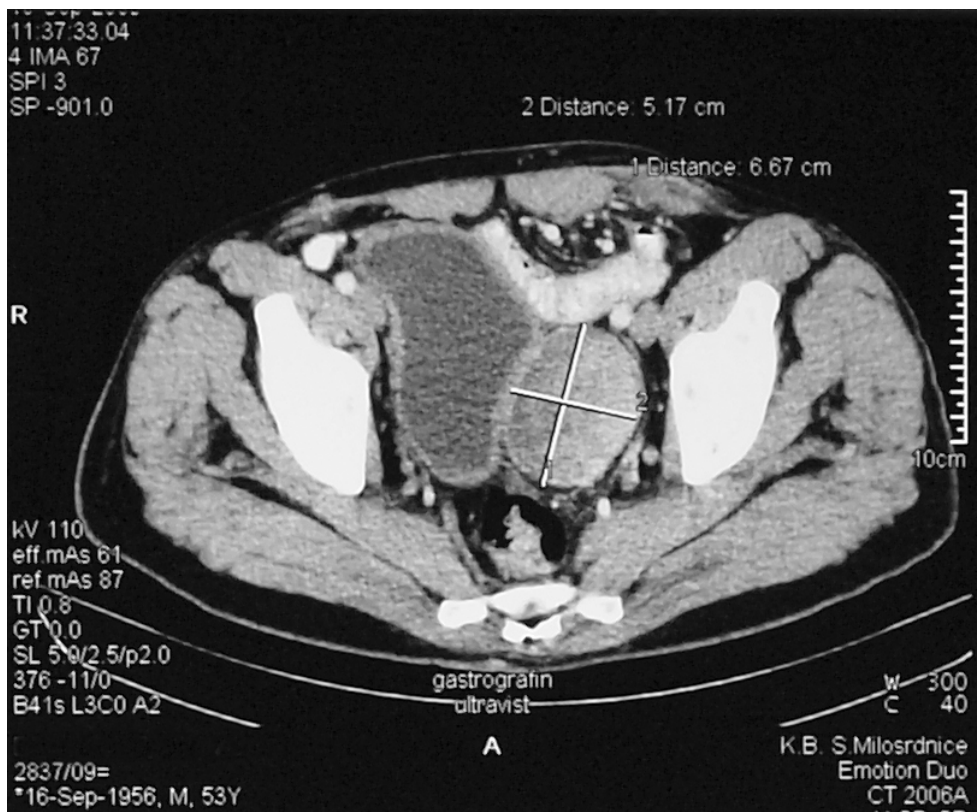
### CLINICAL PRESENTATION

A 53-year-old man presented in our department with symptoms of bladder irritation and painless hematuria. Laboratory was unremarkable, but urinalysis revealed microscopic hematuria. Urinary cytology revealed poorly differentiated tumor. The cytogram phase of excretory urography showed large extrinsic impression of the left side of the urinary bladder (**Figure 1**) A CT scan of the pelvis (**Figure 2**) showed an irregular contrast enhancing tumor mass filling bladder diverticulum and measuring 6 cm in diameter. The patient underwent transvesical diverticulectomy along with tumor mass and regional

pelvic lymph node dissection. Pathology identified a 6x5 cm intradiverticular solid tumor and established the diagnosis of carcinosarcoma with extension to the perivesical fat (**Figure 3**) The lymph nodes and resected margins were negative of tumor. The patient did well postoperatively, and his symptoms completely resolved. Due to poor prognostic features of resected tumor, the oncology board decided to treat the patient with adjuvant chemotherapy and radiotherapy. Six months postoperatively pelvic CT scan (**Figure 4**) and cystoscopy were unremarkable.



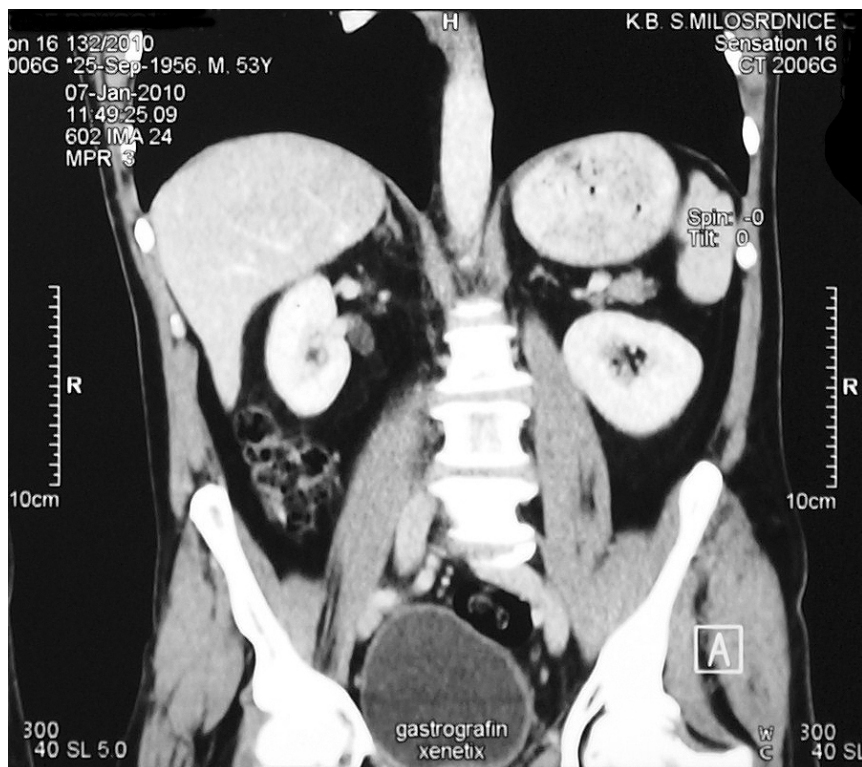
**Figure 1.** Cystogram phase of excretory urography at 30 min. showing large extrinsic impression of the left side of the bladder, pushing bladder medially.



**Figure 2.** Pelvic CT scan showing a large bladder diverticulum containing an irregular contrast enhancing mass, causing impression on posterior left lateral aspect of the bladder.



**Figure 3.** Gross specimen of bladder diverticulum containing a whitish tumor measuring 6x5cm and penetrating into the surrounding adipose tissue.



**Figure 4.** Post-treatment CT scans performed in intervals of 4-6 months show post-irradiation thickening of bladder wall with no signs of relapse.

## DISCUSSION

The majority of bladder cancers originate from the urothelium (1,2). The overall reported incidence of neoplasm arising in urinary bladder diverticulum varies from 2.9% to 4.0% and these neoplasms have a poorer prognosis than tumors arising within the urinary bladder lumen (2,3). Most intradiverticular tumors are urothelial carcinomas and only a minor portion is the other histologic type (1,2). Carcinosarcoma is an unusual neoplasm that shows a mixture of malignant epithelial and malignant mesenchymal components (4,5). Chronic infection, irritation, smoking, cyclophosphamide, and radiotherapy are considered to play a role in the etiology of carcinosarcomas (4). Intradiverticular carcinosarcomas, though rare, carry a poor prognosis due to the

aggressiveness of the tumor and early invasion. The bladder diverticulum, lacking a muscular wall, is easily infiltrated by the tumor, resulting in perivesical extension as seen in our case. This necessitates early diagnosis and aggressive treatment in these tumors. There are no standard guidelines for management of this rare tumor type. Recently, radical surgery plus various combinations of neoadjuvant or adjuvant chemotherapy and/or radiotherapy has been suggested by some authors (4,5). However, the outcomes have been extremely variable and inconsistent (5).

Our patient was treated successfully and remained free from the disease despite the non-radical approach.

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**Citation:** Stimac G, Ulamec M & Jazvić M (2018) Organ Sparing Surgery for Carcinosarcoma of the Urinary Bladder Diverticulum. *Int J Med Clin Imaging*, 2(1): 27-30.

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