

## Signet-Ring Cell Gastric Carcinoma Metastatic to Bladder

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### Abstract

Bladder Signet-Ring Cell Carcinoma (SRCC) is extremely rare. It is most often primary, but metastatic disease is described in a few cases in literature. Herein we describe a case of primary SRCC of the stomach with metastasis to the bladder that did not have the chance to receive treatment and passed away due to tumor aggressiveness. We also reviewed the literature and discussed the etiology, prognosis and treatment of bladder SRCC.

**Keywords:** Bladder; Carcinoma; Metastasis

### Introduction

Bladder Signet-Ring Cell Carcinoma (SRCC) is extremely rare, representing a maximum of 2% of all bladder cancers [1,2]. It is most often primary, but metastatic disease is described in a few cases in literature. Due to low response to chemotherapy and radiotherapy, this is a cancer of poor prognosis [2]. Herein we describe a case of primary SRCC of the stomach with metastasis to the bladder that did not have the chance to receive treatment and passed away due to tumor aggressiveness.

### Case Presentation

A previously healthy 40 year-old woman was admitted to the emergency department with abdominal pain and bilious vomiting associated with weight loss of 4-6 kg in one month. The arrival laboratory tests did not show significant alterations. Computed Tomography (CT) of the abdomen (Figure 1) showed gastric thickening in the body and antrum with mesocolic fat infiltration and regional lymphadenopathy. There was phrenic, gastro-hepatic, celiac, retroperitoneal and pelvic lymphnode enlargement. The survey also showed an infiltrative lesion in the right lateral wall of the bladder.

On the 6th day of hospitalization the patient developed hematemesis. Upper endoscopy was performed. The examination visualized an infiltrated mucosa with gorgeous pleating stretching involving the gastric body, especially the greater curvature, anterior and posterior wall, with vegetating, ulcerated and necrotic areas. A

gastric ulcer biopsy performed during endoscopy confirmed diagnosis of poorly differentiated adenocarcinoma, diffuse-type with signet ring cells, according to the Lauren Classification.

For cancer clinical staging we performed bone scintigraphy and chest/abdomen CT. The first exam showed no changes. However, chest CT identified two micronodules in the lung parenchyma and increased supraclavicular and mediastinal lymph nodes. Also, it was diagnosed pulmonary thromboembolism (subclinical), and anticoagulation was contraindicated due to active gastrointestinal bleeding and hematuria. The comparative abdominal CT performed 29 days after the arrival (Figure 2) showed increased infiltrative lesion in the right lateral wall of the bladder with involvement of the distal ureter. The approach of the bladder lesion was made by Trans-Urethral Resection (TUR), which confirmed metastatic disease. Bladder biopsy showed signet-



Figure 1: Signet-ring cell gastric carcinoma.

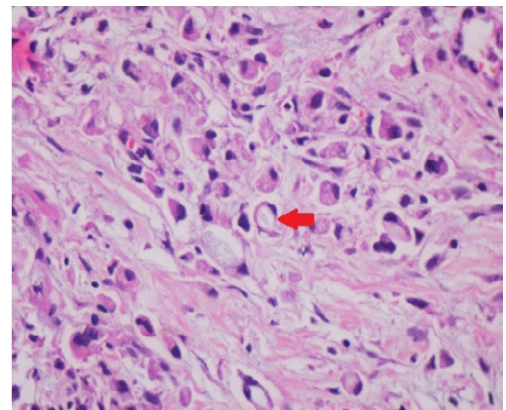


Figure 2: Bladder metastasis of signet-ring cell gastric carcinoma.

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Figure 3: Signet-ring cells in bladder biopsy.

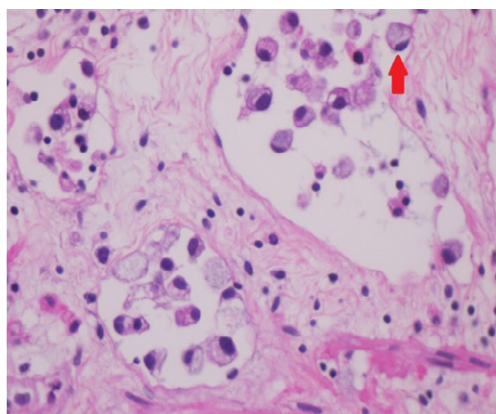


Figure 4: Lymphatic involvement in bladder biopsy.

ring cells (Figure 3) and lymphatic involvement (Figure 4). Abdominal CT also identified an infiltration and blurring of the hepatic hilum with dilated intrahepatic bile duct. Cholestasis was caused by extrinsic compression of the biliary tract, and the patient was submitted to trans-hepatic cholangiography with endovascular stent placement and drainage of bile.

The patient developed septic shock, and broad-spectrum antibiotics were started. She was transferred to the intensive care unit, persisting with hemodynamic instability, with multiple organ dysfunction syndromes. In spite of full treatment there was refractory shock, she passed away.

### Case Discussion

The SRCC variant is a very rare entity, with only 10 cases reported so far [3-11]. When diagnosed in the bladder, SRCC is more likely to be a primary tumor. However, metastasis from a primary gastrointestinal tumor should also be considered and an appropriate investigation to identify these primary lesions should be done due to the difference in treatment between primary and metastatic type [4].

Metastatic tumors in the urinary bladder are uncommon, accounting for 1% of all bladder cancers. In the case of bladder involvement by direct extension, the most common primary sites are colon, prostate, rectum, and cervix. However, in the case of distant metastases, the most common primary tumor sites are skin (melanoma), breast and stomach [12].

Treatment of variants of the signet ring cell carcinoma of bladder is not well defined, due to the rarity of the tumor. The primary types are generally treated surgically, while the metastatic type preferably treated by chemotherapy. Due to aggressiveness, early metastasis and presence

of advanced stages when diagnosis, prognosis is poor, with a mean survival of one to one and a half year after diagnosis [13-15].

### Conclusion

Signet ring cell carcinoma in the bladder is a rare neoplasm that can present as either a primary or metastatic tumor. A history of cancer should raise the possibility of metastatic disease. Occasionally, the bladder may be the first metastatic manifestation of an occult primary neoplasm, usually of gastrointestinal origin. The overall outcome for signet ring cell carcinoma is generally quite poor.

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