

# A Hidden Primary Cancer Presenting as Metastatic Bladder Cancer

Stephanie Tzarnas MD<sup>1</sup>, Vincent Chan MD<sup>1</sup>, Mackenzie Kramer DO<sup>1</sup>, Nathaniel Rosal DO<sup>1</sup>, Daniel Ringold MD<sup>2</sup>

1. Department of Internal Medicine, Abington Jefferson Health, Abington, PA  
2. Department of Gastroenterology, Abington Jefferson Health, Abington, PA



## Introduction

Gastrointestinal (GI) malignancy refers to cancers involving the gastrointestinal tract and organs of digestion. Gastric adenocarcinoma is the most common type of gastric cancer. Helicobacter pylori infection and a family history of gastric malignancy are the two main risk factors for gastric cancer. We discuss a case of primary gastric adenocarcinoma presenting initially as metastatic bladder cancer.

## Case

A 66-year-old female with a past medical history of diabetes mellitus and epilepsy presented to the emergency room with worsening abdominal pain and discomfort. Prior to presentation, she stated she had intermittent abdominal pain for four months. A CT scan of the chest, abdomen, and pelvis was obtained and revealed bladder wall thickening and osseous bone lesions concerning for metastasis. One month prior, she was hospitalized at an outside hospital for abdominal pain, urinary symptoms, and ascites. A CT abdomen and pelvis at that time demonstrated extensive bone lesions and left hydronephrosis.

## Case (continued)

Over the next three weeks, the patient underwent a mammogram, bone marrow biopsy, and PET scan in an attempt to identify the primary tumor. Her workup remained unremarkable with no primary cancer found. On admission, she had a transurethral resection of a bladder tumor and a diagnostic paracentesis. Pathology from the paracentesis showed adenocarcinoma - BER EP4 and Cytokeratin 7 positive, Calretinin and Cytokeratin 20 negative, pointing towards a potential GI malignancy. Bladder biopsy also showed adenocarcinoma. These tumor cells were negative for TTF1 and PAX8, ruling out a primary lung or ovarian malignancy. The patient ultimately underwent an endoscopy and colonoscopy with findings of a submucosal gastric antrum mass. Biopsy pathology confirmed gastric adenocarcinoma with signet cell features.

Follow Us on Instagram!

@abingtonjeffersonIM

## Discussion

Metastatic cancer to the bladder occurs in less than 2% of bladder tumors. The incidence of bladder metastasis from a primary GI cancer is even less. Our patient had imaging studies including a PET scan which were unremarkable for a primary cancer. The most common types of primary malignancy that are metastatic to the bladder are prostate, colorectal, and cervical cancer. In order to differentiate metastatic versus primary adenocarcinoma we used immunohistochemical staining which was not specific for a site of origin. The immunoprofile of positive CK 7 and negative CK 20 included the possibility of the upper GI tract and/or pancreatobiliary tracts, and not primary bladder malignancy. Our patient had what appeared to be a primary bladder cancer which ultimately was metastatic disease from a primary GI malignancy.

## References

1. Okutur, K., Eren, O. O., & Demir, G. Metastasis of Gastric Signet-Ring Cell Carcinoma to the Urinary Bladder: A Case Report and Review of the Literature. *Case reports in oncological medicine*, 2015, 127516.
2. Kazaz, İ. O., Arslan, A., Çolak, F., Kazaz, S. N., Mungan, S., & Karagüzel, E. (2018). Bladder metastasis of gastric signet-ring cell carcinoma. *Urology case reports*, 22, 62–63.
3. Tariq, T., Turk, A., Reaume, M., Muddasani, A., & Parmar, M. (2019). Blocked by a Ring: A Case of Gastric Linitis Plastica Presenting as Large Bowel Obstruction Secondary to Rectal Stenosis. *ACG case reports journal*, 6(2), e00007

## Conclusion

In patients presenting with metastatic cancer of unknown primary with a negative CT scan it would be beneficial to include an endoscopy and colonoscopy as part of the initial workup when investigating the source of the primary cancer especially when immunologic markers include the possibility of a GI malignancy.

## EGD Imaging



Fig. 1: Thickened folds of the gastric mucosa with a poorly distensible antrum

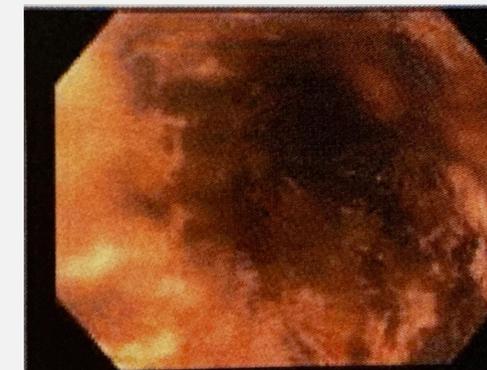


Fig. 2: Erosion and friability with ulceration of the esophageal mucosa

## EGD Imaging



Fig. 4: Gastro-esophageal junction nodularity with demonstrated erosion and friability

## Imaging



Fig. 3: CT scan demonstrating asymmetric soft tissue thickening along the bladder wall