



Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Metastatic esophageal cancer presenting as bladder mass, a case report

Stephanie Liu^{a,*}, Paulette C. Dreher^b, Laurence Belkoff^b, David B. Cahn^b^a Philadelphia College of Osteopathic Medicine, Philadelphia, PA, USA^b Main Line Health, Department of Urology, Bryn Mawr, PA, USA

ARTICLE INFO

Keywords:

Bladder

Metastasis

Gastric adenocarcinoma

ABSTRACT

Metastatic esophageal cancer to urinary bladder is extremely rare and presents as an extremely poor prognosis. Herein, we describe the case of a 68 year-old female with history of resected adenocarcinoma of gastroesophageal junction in remission, who presented with gross hematuria and a bladder lesion. The patient underwent resection of the mass with final pathology consistent with metastatic adenocarcinoma of gastroesophageal junction.

1. Introduction

Esophageal cancer is the eighteenth most common cancer but represents approximately 2.7% of all cancer deaths in the US. Risk factors for adenocarcinoma of the esophagus include GERD, obesity, and smoking.¹ Patients with regionally node positive disease have a 25% five-year survival, while patients with true metastatic sites drops to approximately 5%.

Esophageal metastasis can occur via direct invasion, lymphatic or hematogenous spread, with the most common areas of metastases being regional lymph nodes, liver, lung, stomach, kidney, adrenals and bone.¹ Documented metastasis of esophageal cancer to the urinary bladder is exceedingly rare with a paucity of case reports published in the literature.

2. Case presentation

Our patient is a 68 year-old female with history of adenocarcinoma of gastroesophageal (GE) junction. She was treated with neoadjuvant Taxol/Carboplatin chemotherapy and radiation 50.4 Gy followed by robotic assisted laparoscopy esophagogastrectomy for ypT3N1 grade 2 adenocarcinoma of the GE junction with negative margins. NCCN surveillance recommends a CT chest and abdomen every 6 months for up to 2 years. This patient had been in remission, however seven months postoperatively, she had an episode of painless gross hematuria. Cross sectional imaging of the chest, abdomen and pelvis demonstrated a new 1.7 cm enhancing lesion along the superior posterior wall of the urinary bladder (Fig. 1). No overt metastatic sites were noted. After cystoscopic

confirmation, a transurethral resection was performed, demonstrating metastatic adenocarcinoma, confirmed by positive immunohistochemical staining with CK7, partially CDX2, and negative CK20 and GATA-3 (Fig. 2). These stains were consistent with the patient's esophageal adenocarcinoma primary. Follow up FDG PET/CT revealed two new PET avid liver lesions concerning for further metastasis. The patient was started on FOLFOX systemic chemotherapy but within 6 months, has continued to demonstrate radiographic progression with new pelvic lymphadenopathy, and both diaphragmatic deposits, and a serosal metastatic deposit on the dome of bladder extending toward her sigmoid colon (Fig. 3). Patient ultimately expired from her disease approximately 9 months after her TURBT.

3. Discussion

In a systematic review of esophageal cancer metastasis, Shaheen et al. found 14 (n = 164) cases of metastasis to a genitourinary site (kidney 10, penis 2, testis/spermatic cord 2), with no reported cases to the bladder.² Valcheti and Govindan reviewed 264 cases of metastatic disease to the bladder and found most common primary sites were other genitourinary and colorectal malignancies while malignancies arising from the stomach were 5th most common.³ In addition, the metastatic involvement of the bladder presents infrequently with urinary symptoms. Patients presented with episodes of gross hematuria anywhere from 9 months to 2 years after initial treatment of their primary esophageal tumor with curative resection or chemotherapy with Cisplatin, 5-Fluorouracil, and Herceptin.^{4,5} In 2019, Goh et al. described a patient presenting with new onset left hydronephrosis nine months

Abbreviations: Ggastroesophageal reflux disease (GERD), Ttrans urethral resection of bladder tumor (TURBT).

* Corresponding author.

E-mail address: stephanieli@pcom.edu (S. Liu).

<https://doi.org/10.1016/j.eucr.2021.101790>

Received 18 June 2021; Received in revised form 22 July 2021; Accepted 27 July 2021

Available online 27 July 2021

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

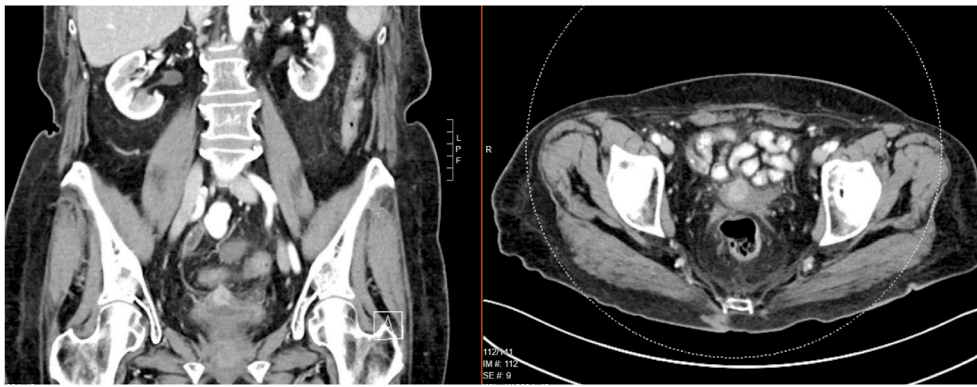


Fig. 1. Cross sectional imaging of the chest, abdomen, and pelvis demonstrating a new 1.7 cm enhancing lesion along the superior posterior wall of the urinary bladder.

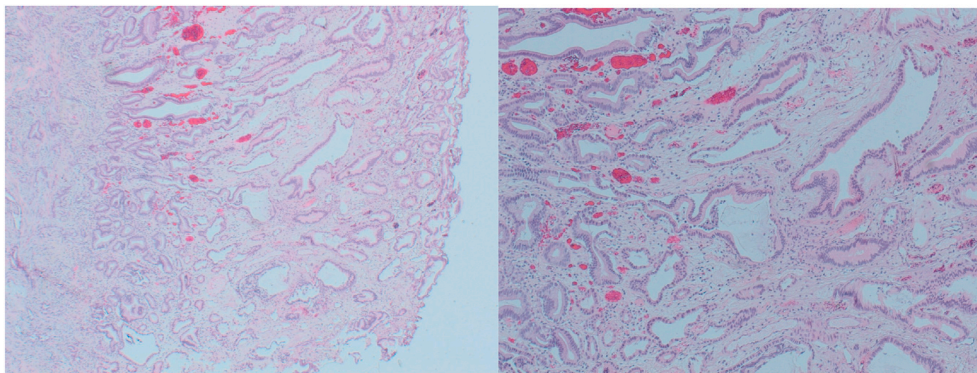


Fig. 2. H&E Stains of Bladder mass consistent with metastatic adenocarcinoma.

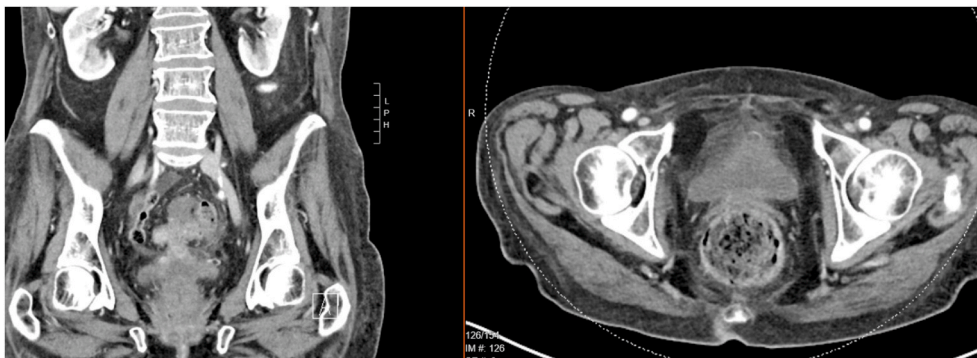


Fig. 3. Cross sectional imaging of the chest, abdomen and pelvis demonstrating pelvic lymphadenopathy, diaphragmatic deposits, and a serosal metastatic deposit on the dome of bladder extending toward her sigmoid colon pelvis.

after treatment of his poorly differentiated esophageal carcinoma.⁵ Cystoscopy demonstrated tumor at the left ureteric orifice and final pathology was consistent with metastatic disease.⁶ Ultimately, patients were referred to medical oncology for further treatment and expired from five week to 4 months after diagnosis of urinary bladder metastasis.^{4,5}

4. Conclusion

Esophageal metastasis to the bladder is exceedingly rare and represents an extremely poor prognostic indicator. Patients more frequently present with gross hematuria, although obstructive symptoms (i.e. hydronephrosis) may also be present. Metastasis must be on the differential diagnosis for patients who present with gross hematuria with a

known history of an aggressive solid organ malignancy, despite previous treatment.

References

1. Napier KJ, Scheerer M, Misra S. Esophageal cancer: a review of epidemiology, pathogenesis, staging workup and treatment modalities. *World J Gastrointest Oncol.* 2014;6(5):112–120. <https://doi.org/10.4251/wjgo.v6.i5.112>.
2. Shaheen O, Ghibour A, Alsaïd B. Esophageal cancer metastases to unexpected sites: a systematic review. *Gastroenterol Res Pract.* 2017;2017:1657310. <https://doi.org/10.1155/2017/1657310>.

3. Velcheti V, Govindan R. Metastatic cancer involving bladder: a review. *Can J Urol*. 2007 Feb;14(1):3443–3448. PMID: 17324324.
4. Hargunani R, Al-Dujaily S, Abdulla A, Osborne D. Haematuria as a presentation of metastatic oesophageal carcinoma. *Int Semin Surg Oncol*. 2005;2(1):4. <https://doi.org/10.1186/1477-7800-2-4>. Published 2005 Feb 20.
5. Goh D, Teo XL, Lim SKT. A rare cause of ureteric stricture and hydronephrosis: metastatic esophageal cancer to urinary bladder. *Mini-Invasive Surgery*. 2019;3:17. <https://doi.org/10.20517/2574-1225.2019.06>.