Metastatic Testicular Embryonal Carcinoma Presenting as Gastrointestinal Hemorrhage

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ABSTRACT
Testicular cancer is the most common malignancy in men aged 20–35 years, usually presenting with painless scrotal swelling. Metastases, should they occur, frequently involve retroperitoneal lymph nodes, which drain the testes. Gastrointestinal (GI) metastases are rare, and metastatic disease may not initially be considered in a young man presenting with GI hemorrhage. This case demonstrates the importance of evaluating for a primary underlying malignancy, especially if other causes of GI hemorrhage have been ruled out. Testicular primary should additionally be considered in men because early intervention may often lead to improved clinical outcomes.

INTRODUCTION
Metastatic testicular embryonal carcinoma presenting as gastrointestinal (GI) hemorrhage is an uncommon phenomenon. Although testicular cancer is the most common malignancy in men aged 20–35 years, metastases to the GI tract occur at an incidence of less than 5%. In a young man with otherwise unexplained GI hemorrhage, it is therefore essential to consider the possibility of underlying malignancy.

CASE REPORT
A previously healthy 27-year-old man presented with 2 weeks of abdominal pain and generalized weakness followed by 3 days of melena and 2 days of hematemesis. He used daily ibuprofen for a work-related back injury for 1 week and endorsed drinking 4 24-oz beers daily for 5 years. His initial vital signs showed a blood pressure of 103/43 mm Hg and a heart rate of 138 beats per minute. Laboratory data were significant for a white blood cell count of 26.9 × 10⁹/L, hemoglobin 5.3 g/dL, and an international normalized ratio 1.33. His metabolic profile and liver panel were within normal limits. The patient received intravenous pantoprazole, emergency O-negative blood, and fluid boluses with eventual stabilization of his vital signs. Because of a history of significant abdominal pain and to evaluate for active bleeding, an abdominal and pelvic computed tomography angiography with contrast was performed. It showed a large 15.1 × 13.9 × 8.6-cm hypervascular soft-tissue mass with necrotic center and multiple foci of contrast blush located adjacent to the third portion of the duodenum, extensive peritoneal and retroperitoneal lymphadenopathy, and multiple lung masses (Figure 1).

An esophagogastroduodenoscopy revealed an exophytic mass-like obstruction in the duodenum that when traversed, revealed a large cavity filled with necrotic tissue and old blood extending from the third portion of the duodenum deep into the subperitoneal space (Figure 2). An adherent clot on the edge of the cavity was washed out with resultant bleeding that was controlled with coagulation graspers (Figure 3). A biopsy taken of irregular tissue at the edge of the necrotic cavity showed only granulation tissue. The patient’s clinical course was complicated by multiple episodes of recurrent hemorrhage requiring repeat endoscopic treatment with bipolar coagulation, epinephrine injection, and hemostatic powder application. He was evaluated by both Surgery and Interventional Radiology, and deemed not to be a safe candidate for resection or embolization secondary to the necrotic, bowel invasive nature of the tumor. He eventually had a laparoscopic gastrojejunostomy bypass surgery with closure of the pylorus and...
surgical insertion of a J-tube. This pyloric exclusion surgery was partially for obstruction and also to decrease morbidity associated with dehiscence and fistula formation in severe duodenal injury.

Additional laboratory studies showed an elevated human chorionic gonadotropin (HCG) levels of 117,287 and alpha-fetoprotein (AFP) of 2.1. An interventional radiology-guided retroperitoneal lymph node biopsy revealed a germ cell tumor (GCT) but could not distinguish the type. A scrotal ultrasound showed multiple vascular hypoechoic right intratesticular masses and confirmed the diagnosis of GCT. The patient was started empirically on chemotherapy with etoposide, ifosfamide, and cisplatin. He was hospitalized for 27 days, and required a total of 23 packed red blood cell transfusions, 13 units of fresh frozen plasma, and 3 units of platelets. Notably, episodes of GI bleeding stopped 11 days after initiation of chemotherapy. On 3-month follow-up, the patient’s intraabdominal mass had decreased in size significantly, and he had no further episodes of GI bleeding.

DISCUSSION

GCTs account for 95% of all testicular cancers. Testicular cancers are the most common solid tumors in men aged 15–35 years; however, they account for approximately 1% of all solid neoplasms in men. Metastases of testicular cancers primarily occur through blood and lymphatic drainage, but metastasis to the GI tract is rare and occurs in less than 5% of patients. This most frequently occurs through lymphatic extension of the testes with drainage to the retroperitoneal lymph nodes, and the duodenum is the most uncommon location of GI metastasis from testicular cancers. Once metastasized to the GI tract, it most commonly presents as a GI bleed or obstruction. Our young patient presented with acute upper GI bleeding secondary to metastatic embryonal carcinoma, a type of GCT. The diagnosis was made based on an elevated beta-HCG, normal AFP, and retroperitoneal lymph node biopsy. A high suspicion for GCT was needed to make the diagnosis because endoscopic biopsies showed only granulation tissue and was nondiagnostic. If suspected, serum tumor markers AFP, HCG, and lactate dehydrogenase should be collected because one or more of these values are elevated in 80% of metastatic GCTs of the testes, and a thorough evaluation of the testes with physical examination and ultrasound imaging should be performed.

Bleeding can be a severe complication of metastatic GCTs, and there are currently no widely accepted endoscopic guidelines in the management of bleeding because of GI tumors. Our patient had multiple episodes of bleeding treated with a variety of hemostatic techniques and equipment. The Coagrasper (Olympus, Tokyo, Japan) was used for hemostasis by grasping tissue with etoposide, ifosfamide, and cisplatin. He was hospitalized for 27 days, and required a total of 23 packed red blood cell transfusions, 13 units of fresh frozen plasma, and 3 units of platelets. Notably, episodes of GI bleeding stopped 11 days after initiation of chemotherapy. On 3-month follow-up, the patient’s intraabdominal mass had decreased in size significantly, and he had no further episodes of GI bleeding.
until definitive treatment can be pursued. Luckily, GCTs are highly sensitive to chemotherapy, and our patient made a full recovery. In conclusion, GI bleeding because of metastatic cancer is a complex and difficult situation that requires careful consideration of the most likely form of primary cancer. A multidisciplinary team of gastroenterologists, oncologists, and surgeons should work together to diagnose correctly and provide the optimal therapy.

DISCLOSURES

Author contributions: All authors contributed equally to this manuscript. J. Samarasena is the article guarantor.

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Informed consent was obtained for this case report.

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