

RESEARCH ARTICLE

# Genital exam, a missed piece of the puzzle in medical diagnosis, can be lifesaving in men: A lesson from a case of a state of shock due to duodenal metastasis of testicular choriocarcinoma

Shahryar Zeighami<sup>1</sup>, Nima Naghdi sede<sup>1</sup>, Fatemeh khajeh<sup>2</sup>, Ali Ariafar<sup>1</sup>,  
Mohammadreza Soltani<sup>1</sup>, Zahra Jahanabadi<sup>1</sup>, Aliasghar khaleghi<sup>3</sup>, Zahra Bazargan<sup>4</sup>

Address for Correspondence:

Shahryar Zeighami<sup>1</sup>

<sup>1</sup>Urology Department, Shiraz University of Medical Sciences, Shiraz, Iran

<sup>2</sup>Pathology Department, Fasa University of Medical Sciences, Iran

<sup>3</sup>Emergency medicine department, Fasa University of Medical Sciences, Iran

<sup>4</sup>Pediatrics Department, Fasa University of Medical Sciences, Iran

Email: [mojgankaje@gmail.com](mailto:mojgankaje@gmail.com)

<http://dx.doi.org/10.5339/qmj.2020.31>

Submitted: 09 April 2020

Accepted: 06 June 2020

© 2020 Zeighami, sede, khajeh, Ariafar, Soltani, Jahanabadi, khaleghi, Bazargan, licensee HBKU Press. This is an open access article distributed under the terms of the Creative Commons Attribution license CC BY 4.0, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Zeighami S, sede NN, khajeh F, Ariafar A, Soltani M, Jahanabadi Z, khaleghi A, Bazargan Z. Genital exam, a missed piece of the puzzle in medical diagnosis, can be lifesaving in men: A lesson from a case of a state of shock due to duodenal metastasis of testicular choriocarcinoma, Qatar Medical Journal 2020:31 <http://dx.doi.org/10.5339/qmj.2020.31>

كيوساينس  
QSCIENCE

دار جامعة حمد بن خليفة للنشر  
HAMAD BIN KHALIFA UNIVERSITY PRESS

## ABSTRACT

Here we reported a case of a 17-year-old man with a history of weakness, vertigo, nausea, vomiting and dark stool within the last three months prior to admission. He was taken to the Emergency Room in a state of shock. After resuscitation, vital signs became stable, but due to low hemoglobin (HB= 5 g/dl), to find the source of bleeding, endoscopy was performed and a mass in the duodenum was detected. The pathology report was metastatic germ cell tumor. On genital physical exam (PE) there was a mass in the right testis; thus, the patient underwent radical orchiectomy and choriocarcinoma was diagnosed. The patient then received chemotherapy for six months, and he responded well to the treatment. This case report confirmed that genital PE should be part of a patient's visit, even when we cannot find logical relation between clinical presentation and genital PE.

Keywords: Choriocarcinoma, duodenal diseases, metastasis, testicular neoplasm, gastrointestinal hemorrhage, shock etiology

## INTRODUCTION

Testicular cancer is one of the most frequently observed solid tumors amongst young males.<sup>1</sup> Metastasis of testicular cancer generally occurs through lymphatic drainage and hematogenous pathways.<sup>1</sup> The most common sites of metastases are the lung, liver, brain, gastrointestinal tract (GI), spleen, and adrenal glands. GI metastasis is seen in 5% of germ cell tumors (GCT) with occult blood or

significant blood loss. However, hypovolemic shock as the first presentation of distant metastases has not yet been reported.[1] Here we report a duodenal mass that was found to be metastatic from choriocarcinoma of the testis in a young man who was brought to the emergency room (ER) in a state of shock. Generally, GCT of the testis are considered quite curable; therefore, a complete physical examination (PE) including a genital examination (GE) is an easy and essential tool for male patients with longstanding complaints, to achieve the correct diagnosis as a timely and important issue.

### CASE PRESENTATION

A 17-year-old man was brought in a state of shock to the ER of Namazi hospital affiliated with Shiraz University of Medical Sciences, Iran. Based on his medical history, he had been referred to several different physicians with a chief complaint of weakness, vertigo, nausea, and vomiting. Three months prior to his admission, he had experienced pallor and frequent episodes of decreased blood pressure. He stated that he had experienced dark stools in recent days, which he thought was related to his diet. He had lost 9.8 kg of weight (14%) in the past three months. His laboratory results showed low hemoglobin (HB = 5 g/dl), and a peripheral blood smear showed severe hypochromic microcytic anemia with anisocytosis, adequate platelets, and a white blood cell count in the normal range, and coagulation tests were normal. Following insertion of a naso-gastric tube (NGT), fresh blood was observed in the NGT, and then four bags of packed red blood cells were transfused. An upper and lower endoscopy was performed. This procedure revealed a large mass in the second part of the duodenum, which had extended to the third part. A biopsy was taken and sent to the pathology laboratory. His HB rose to 8 g/dl the day after the transfusion.

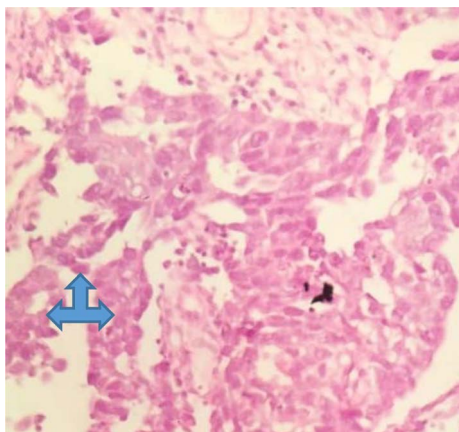
A spiral CT scan of the abdomen and pelvis with contrast showed a 105 mm x 66mm x 60 mm, mildly enhanced mass lesion, located caudal to the pancreatic head, which was easily distinguished and in close contact with the abdominal aorta in a way that angulated it more than 18 degrees and compressing the Inferior vena cava posteriorly. The findings favored a neoplastic process of the pancreatic head (Figure 1). The radiologist recommended further evaluation and biopsy. The surgical consultant recommended surgery.



**Figure 1.** Coronal view of a mildly enhanced mass lesion in the duodenum or head of the pancreas, spiral computed tomography scan.

Hematoxylin and eosin sections of endoscopic duodenal mass biopsy showed crowded tumor cells with indistinct cell borders and overlapping nuclei that were arranged in solid and glandular patterns. Most of the nuclei were hyperchromatic and sometimes had smudged chromatin mimicking syncytiotrophoblasts; mitotic figures were detected. Hemorrhagic and necrotic foci were easily detected. Immunohistochemistry (IHC) confirmed the diagnosis of a metastatic germ cell tumor. The IHC profile result revealed positivity for human chorionic gonadotropin (HCG), positivity for epithelial membrane antigen (EMA), weak positivity for placental alkaline phosphatase (PLAP), negativity for C-Kit (cd117), and negativity for leukocyte common antigen (Figure 2).

The scrotal PE revealed a mass measuring 4 cm x 3 cm x 3 cm in his right testis, which was confirmed by ultrasonography. Tumor markers were also requested. Results showed high HCG equal to 120,000 IU/ml and Alfa fetoprotein (AFP) equal to 7.7ng/ml; both tumor markers were measured using the "Vidas" immunoassay system made in France. The patient underwent radical orchiectomy. Grossly, the tumor was mainly hemorrhagic and necrotic. Microscopically, there was an admixture of syncytiotrophoblast cells (large, multinucleated cells with large, irregular nuclei) and cytotrophoblast cells (pale cytoplasm with a single large nucleus and prominent nucleolus) and intermediate trophoblasts (larger than cytotrophoblasts) (Figure 3).



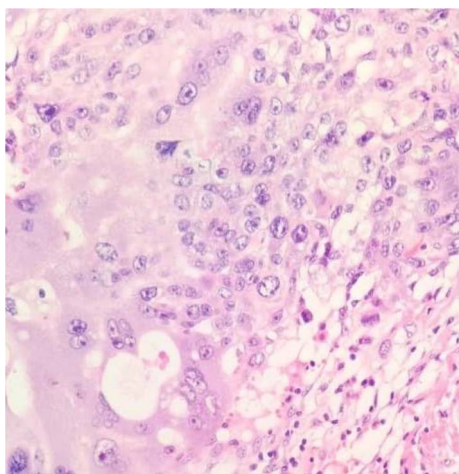
**Figure 2. Germ cell tumor metastasis in a duodenum biopsy.** Note crowded tumor cells with indistinct cell borders and overlapping nuclei arranged in solid and glandular patterns (arrowheads). Most of the nuclei were hyperchromatic and sometimes had smudged chromatin, mitotic figures, hemorrhagic foci, and readily apparent necrosis. Hematoxylin and eosin (H&E)  $\times$  400.

This histologic picture was in favor of choriocarcinoma, which was confirmed by positivity for EMA and HCG in tumor cells on IHC staining.

The patient received four cycle BEP chemotherapy (Bleomycin, Etoposide, Cisplatin) every three weeks without any complications. He is still alive and well and has been followed-up monthly for the past six months by our team.

## DISCUSSION

GI bleeding presents with various manifestations, including hematemesis, melena, and hematochezia,



**Figure 3. Testicular mass.** Note the syncytiotrophoblast cells with large, multinucleated cells with large, irregular nuclei. Hematoxylin and eosin (H&E)  $\times$  400.

that can cause a positive occult blood test and hemodynamic disorders. The severity of these clinical symptoms, the presence or absence of underlying diseases, age, gender, drug or alcohol abuse, and complete blood count parameters can assist physicians in the determination of bleeding etiology.<sup>1,2</sup> Gastric and duodenal peptic ulcer, gastritis, erosive diseases, Mallory-Weiss syndromes, GI tract malignancies, esophageal varices, hematological disorders, and other factors should be considered as the proximate causes of GI bleeding.[3] Therefore, primary evaluations should include a complete patient history, PE, and laboratory findings, all of which are crucial in determining the source of bleeding. In 90% of melena cases, the source of the bleeding is the proximal segment.<sup>3,4,5</sup> Routine coagulation tests and a peripheral blood smear are recommended, since they can provide beneficial information in the case of hematological malignancies.<sup>3,6</sup>

In this report, the patient was 17 years old with a negative past medical history, negative history of drug or alcohol abuse, and a non-smoker. Furthermore, the patient had noticed a tarry stool once in the last week prior to arriving in a state of shock, but he had ignored it.

Weight loss of 9.8 kg in our patient during the past few months was an indication of a serious problem, most likely a malignancy. Considering the patient's age, non-GI malignancies should be ruled out first. In a patient like our case, a study of tumor markers such as serum AFP, HCG, and LDH (lactate dehydrogenase) levels is recommended, but when the patient was brought to the ER in a state of shock, this study was missed.

Duodenal metastasis is seen in 1.4% of GCT<sup>7,8</sup> with the initial presentation of abdominal pain (46%), melena (44%), hematemesis and melena (24%), and, to a lesser extent, low hemoglobin.<sup>9</sup> GI bleeding also is seen after chemotherapy because of chemotherapy-induced tumor cell necrosis.<sup>10</sup> Abdominal pain may be the first clue to GCT recurrence within two years after orchiectomy and chemotherapy.<sup>11,12</sup>

The combination of the unusual GI presentation of GCT and the rarity of this tumor make the diagnosis of GCT easy to miss, as in our case. Hence, we recommended GE as an essential part of complete PE, because GCT of the testis are quite curable nowadays.<sup>13</sup> In a survey in 2016, only 21% of 8720 new testis cancer was anticipated. Hence the importance of history taking and a complete PE

including a GE to assist us in obtaining useful differential diagnoses leading to the correct diagnosis.<sup>7</sup>

From an ethical and legal point of view, the lack of an accurate physical and laboratory examination can lead to a loss of valuable time, resulting in increased mortality and morbidity as well as increased treatment costs for the patient and insurance companies. Therefore, a thorough genital system examination in the primary stages seems to be crucial in any young male patient. In our patient, the abovementioned examination was not only omitted on several clinic visits, but it was also not performed at the time of admission. A tumor marker study was also missed. The pathological diagnosis led us to perform GE, while the reverse route is correct; because we might have missed a golden opportunity. Only one week after admission, a pathological diagnosis of metastatic germ cell tumor of the duodenum was made, and we were reminded of the genital exam. Hence, we have termed the GE "the missed piece of the puzzle" in medical diagnosis. We do not know how many patients have died because their physicians missed this piece.

Testicular choriocarcinoma is an invasive and rapidly growing rare tumor amongst young men with a dominant metastatic pattern to the lung, liver, and brain<sup>4,5,6</sup>; however, metastasis to the GI tract has been rarely reported.

## CONCLUSION

A GE should be performed in any young man with important or longstanding complaints that cause several clinic referrals or at the time of hospital admission. The sooner we diagnose important genital diseases, the better our chances of initiating treatment during the golden time, and, consequently,

the rate of mortality and morbidity as well as the cost of treatment will be reduced significantly.

## Authorship contributions

All of the authors have contributed to various steps of the diagnosis in this rare but interesting case.

## Ethics approval and consent to participate

There is no need to ethical approval relevant to our case report. Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

## Consent for publication

A copy of the written consent from the patient for publication of any data or image or video is available for review by the Editor-in-Chief of this journal.

## Availability of data and material

All of the data and material is available in our clinic and lab.

## Conflict of interests

The authors declare that they have no competing interests.

## Funding

The authors declare they have not received any fund.

## Acknowledgment

We are grateful to Professor A. Safaei and staff of the Molecular Pathology Laboratory of Faghihi Hospital affiliated with the Shiraz University of Medical Sciences for their professional help in the IHC study of this diagnosis. The authors also wish to thank Mr. H. Argasi at the Research Consultation Center (RCC) of Shiraz University of Medical Sciences for his invaluable assistance in editing this manuscript.

## REFERENCES

1. Senadhi V, Dutta S. Testicular seminoma metastasis to the gastrointestinal tract and the necessity of surgery. *J Gastrointest Cancer* 2012 Sep;43(3):499–501.
2. Cappel MS, Friedel D. Initial management of acute upper gastrointestinal bleeding: from initial evaluation up to gastrointestinal endoscopy. *Med Clin North Am* 2008;92:491.
3. Ernst AA, Haynes ML, Nick TG, Weiss SJ. Usefulness of the blood urea nitrogen/creatinine ratio in gastrointestinal bleeding. *Am J Emerg Med* 1999;17:70.
4. Rosenblatt GS, Walsh CJ, Chung S. Metastatic testis tumor presenting as gastrointestinal hemorrhage. *J Urol* 2000;164:1655.
5. Sheinfeld J. Nonseminomatous germ cell tumors of the testis: current concepts and controversies. *Urology* 1994;44:2–14.
6. Yazgan Y, Öncü K, Kaplan M, Tanoğlu A, Küçük I, Özarı HO et al., Upper gastrointestinal bleeding as an initial manifestation of metastasis secondary to choriocarcinoma. *Turk J Gastroenterol.* 2013;24(6):565–567.

7. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2016. *CA: A Cancer Journal for Clinicians* 2016;66(1):7–30.
8. Rosenblatt GS, Walsh CJ, Chung S. Metastatic testis tumor presenting as gastrointestinal hemorrhage. *J Urology* 2000;164(5):1655.
9. Kamel R, Seoud T, Oluwadamilola T, Karass M, Grossniklaus E, Oprea-Ilies G, et al., Chemotherapy used to halt lower GI bleeding in a rare case of metastatic choriocarcinoma to the GI tract. *Case Rep Oncol Med* 2016;2016:7620205.
10. Travis LB, Fossa SD, Schonfeld SJ, et al., Second cancers among 40,576 testicular cancer patients: focus on long-term survivors. *J Nat Cancer Inst* 2005;97(18):1354–1365.
11. Altamar HO, Middleton GW, Capozza TA, Auge BK, Amling CL. Profound anemia from duodenal invasion of metastatic testicular seminoma. *J Urol* 2004;171(1):344–345.
12. Balogun-Ojuri B, Lee Y-M, Save V, Ibrahim A, Warren AY, Fearnhead NS. A rare case of primary seminoma of the small bowel with lymph node involvement. *J Gastrointest Cancer* 2011;42(3):183–185.
13. Chait MM, Kurtz RC, Hajdu SI. Gastrointestinal tract metastasis in patients with germ-cell tumor of the testis. *Am J Dig Dis* 1978;23(10):925–928.