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Case Report

Testicular choriocarcinoma with small bowel metastasis and active gastrointestinal bleeding ☆,☆☆

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ABSTRACT

Testicular choriocarcinomas make up less than 1% of all germ-cell tumors and are highly malignant, attributable to hematogenous spread. While the most common sites of metastasis are the lungs and liver, metastatic spread to the gastrointestinal tract is rare wherein patients may present with GI distress or even an upper GI bleed. In this report, we present a case of known testicular choriocarcinoma in a 40-year-old male who presented to the emergency room with severe anemia and a suspected upper GI bleed.

Introduction

Testicular choriocarcinomas constitute the rarest, yet most aggressive, form of testicular cancer and is classified as a non-seminomatous germ-cell tumor (NSGCT). Choriocarcinomas make up less than 1% of all GCTs and are highly malignant due to their predilection to hematogenous spread [1]. Almost 50% of patients have evidence of metastatic disease at their first presentation, with the most common sites being the lungs and liver [2,3]. In less than 5% of cases, however, there is metastatic spread to the gastrointestinal (GI) tract [4], wherein patients may present with GI distress or even an upper GI bleed. We present a case of known testicular choriocarcinoma in a 40-year-old male who presented to the emergency room (ER) with severe anemia and a suspected upper GI bleed.

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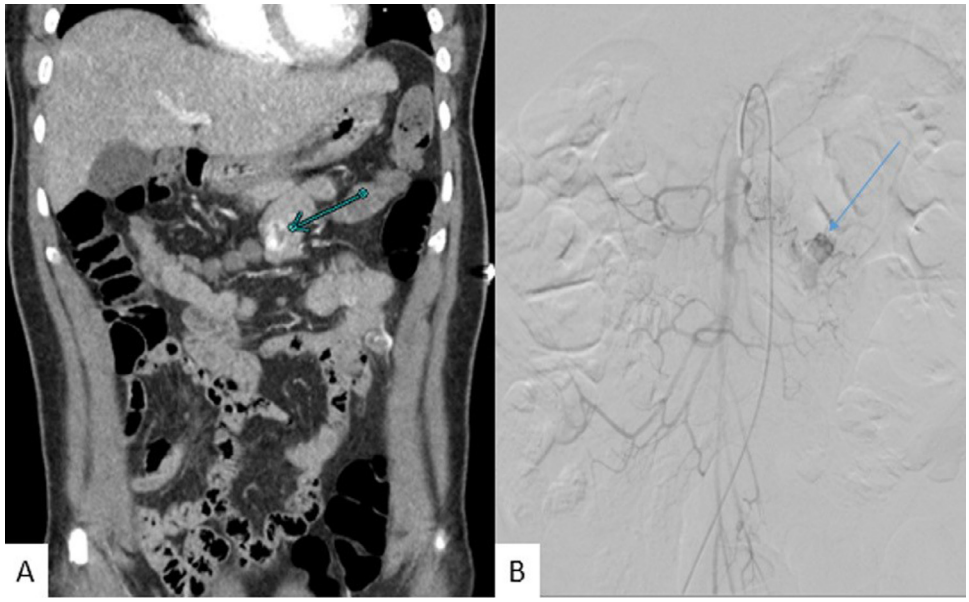

Fig. 1 – (A) CECT coronal section showing arterially enhancing metastatic deposit in the jejunum cause of the active bleed; (B) angiogram confirming the presence of an active bleed.

Case presentation

A 40-year-old male who was a known case of testicular choriocarcinoma presented to the emergency room (ER) with fever, cough, dizziness, melena, and severe anemia.

On physical examination, there was marked pallor, and he had a pulse of 125 beats/min, respiratory rate 30 breaths/min, oxygen saturation of 97% and blood pressure of 118/57 mm of Hg. His blood test showed a hemoglobin level of 6 g/dL, RBC count of 2.16×10^{12}/L (normal $4.25\text{-}6.02\times10^{12}$/L), a hematocrit of 18.8% (normal 38.4-50.7%), white blood cell count of 13.4×10^{9}/L (normal $4.8\text{-}11.3\times10^{9}$/L) and platelet count of 146×10^{9}/L (normal $154\text{-}433\times10^{9}$/L) . He was subsequently transfused with 1 packed cell volume (PCV) and admitted to the ER.

History revealed the patient to be an ex-smoker and ex-alcoholic who had been suffering from progressively worsening melena and severe epigastric pain for the last 20 days. He had undergone a right inguinal orchidectomy and a hemorrhoidectomy for the tumor 10 days prior and had undergone 4 sessions of radiotherapy and chemotherapy with bleomycin, etoposide, and cisplatin (BEC). Following an episode of melena, the patient sought care at another healthcare facility where he was transfused a total of 11 PCV's despite which his hemoglobin levels continued to plummet, eventually reaching 4 g/dL after which the patient was brought to the ER. Based on the patient's history, a preliminary diagnosis of an upper gastrointestinal bleed secondary to metastatic bowel deposits of the testicular choriocarcinoma was made.

CT (computed tomography) scans of the chest, abdomen and pelvis were ordered, and showed multiple metastatic deposits in both lungs and the small bowel (Figs. 1 and 2). The lungs revealed diffuse intrapulmonary subpleural cystic metastases in the middle lobe, left lingula and both lower lobes, while the abdomen revealed multiple hyper-enhancing lesions in the pancreaticoduodenal groove, proximal jejunum, and ileum which were suggestive of an active bleed. The patient was advised to proceed with an emergent angioembolization procedure for the possible intra-abdominal bleed.

The patient's right groin was prepared and sterilized, and local anesthesia was administered. The right femoral artery was punctured using an 18G arterial puncture needle and a 4 Fr vascular access sheath was placed. The coeliac, superior mesenteric (SMA), and inferior mesenteric arteries (IMA) were cannulated using a C1 catheter over a 0.035 hydrophilic glidewire. A run was performed by injecting concentrated contrast which showed an abnormal blush of contrast in the region of proximal jejunum, which was supplied by jejunal branch of the SMA, though no active arterial extravasation was seen. A 2.7 Fr microcatheter was subsequently used to cannulate the jejunal branch of the SMA, which was then embolized using 250-355 and 355-550 PVA embolization particles. No other blush was seen from the coeliac branches of the SMA or IMA. A post-procedural run showed no residual active contrast blush.

The patient was advised to continue hospital stay for observation and to ensure there were no post-procedural complications. The patient was discharged on the fifth postoperative day without any complications and was referred to the oncology department to pursue palliative chemotherapy. Follow-up after 3 months revealed persistent epigastric pain, most likely attributable to chemotherapy induced gastritis, and severe weight loss of 24 kg due to advanced metastatic disease in the lungs. The patient subsequently expired 1 month later.

Discussion

Testicular tumors are among the most common neoplasms in males and can be histologically classified into many subtypes of which the most common are germ-cell tumors (GCTs),

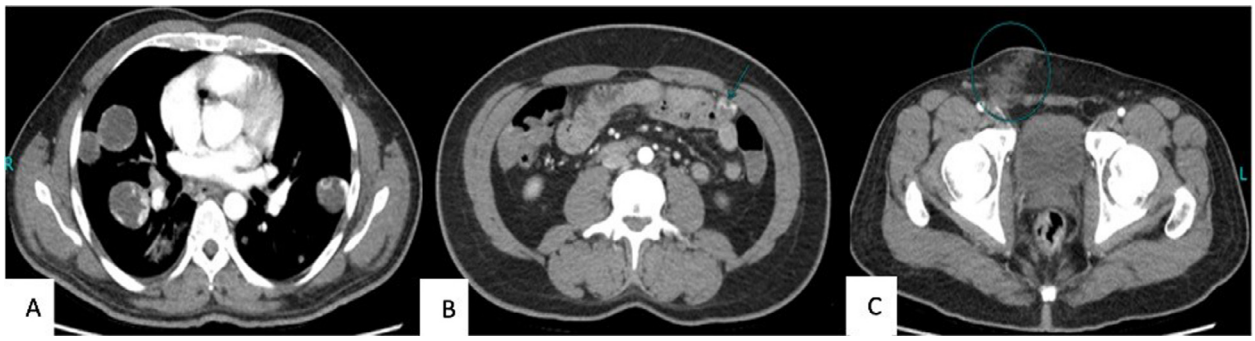

Fig. 2 – (A) Multiple arterially enhancing metastatic pulmonary deposits; (B) arterially enhancing lesion adherent to the distal ileal loops; (C) post orchidectomy scar.

which constitute about 95% of testicular tumors. GCTs can be further subdivided into seminomatous GCTs (SGCTs) and nonseminomatous GCTs (NSGCTs). Testicular choriocarcinoma is the rarest type of NSGCT and occurs in young men between the ages of 25 to 30 [1]. Pure testicular choriocarcinomas are found in 0.1% to 0.8% of cases, while they are more commonly found as a component of a mixed germ cell tumor in 7% to 8% of reported cases [5]. It is also the most aggressive testicular cancer, and has a poor prognosis due to its extremely high potential for malignancy via hematogenous spread [3]. Choriocarcinomas are generally unilateral and appear in the form of a painless testicular swelling. As such, symptoms related to the primary tumor usually go unnoticed with patients most commonly presenting with symptoms that are secondary to metastatic deposits in other parts of the body. These may include hemorrhage or necrosis, and cause symptoms including epistaxis, hematemesis, hemoptysis, and melena [6], as was seen in our patient. Common sites of metastasis include the lungs and the liver [2].

However, in less than 5% of cases, patients may present with GI metastases secondary to a primary testicular choriocarcinoma, with the most common site in the GI tract being the stomach [4]. Far less commonly, GI metastases of testicular choriocarcinoma may be found in the small intestines and colon [7] which may then present with an upper GI bleed depending on the location, as was seen in our patient who presented with melena and a rapidly declining hemoglobin level. Indeed, sites of metastatic involvement of such tumors very commonly present with hemorrhage and necrosis [8]. These tumors metastasize to the GI tract most commonly via connections to the retroperitoneal lymph nodes which is atypical given the hematogenous metastasis to other locations in the body.

Diagnosis of such tumors should be done through a biopsy, such as a testicular wedge biopsy. This is especially true in cases where there are suspected GI metastases since it is important to differentiate a primary gastrointestinal tumor from a choriocarcinoma metastasis. Histologically, testicular choriocarcinomas are constituted of large, multinucleated syncytiotrophoblast cells and more polygonal cytotrophoblast cells, both of which are normally found in developing embryos [8]. GCT tumors generally also present with elevated levels of serum beta human chorionic gonadotropin (β-hCG), thus making it a useful serum marker to narrow down diagnoses. However, our patient was not biopsied since he had recently undergone an orchidectomy to remove the primary tumor, and the radiological evidence of hyper-enhancing lesions on CT scan coupled with the patient's history were enough to make a preliminary diagnosis of an upper GI bleed secondary to GI metastases.

The first line of treatment for a case of testicular carcinoma with multiple metastatic sites is mainly inguinal orchidectomy, that involves the removal of one or both the affected testes and platinum-based chemotherapy for the removal of the tumor cells from the metastatic sites [9]. In GI metastases, mesenteric angioembolization is effective in mitigating an active upper GI bleed [10], as was performed in our case which resolved without any complications. Regular follow-ups and palliative chemotherapy are advised to monitor for recurrence and to prevent adverse long-term outcomes.

Patient consent

We obtained written, informed consent for publication of this case from the patient's next of kin, given the patient was unavailable.

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