

Letters to the Editor

Duodenal involvement by seminomatous tumors

Key words: Germ cell tumor. Seminoma. Gastrointestinal metastasis.

Dear Editor,

Testicular germ cell tumors (GCT), though rare (1%), represent the most common neoplasm among young men (1). Involvement of gastrointestinal (GI) tract in patients presenting such malignancies is due to three patterns: Infiltration from affected retroperitoneal lymph nodes or, less frequently, by peritoneal seeding and direct hematogenous metastatic spread (2,3). Its usual symptoms are bowel obstruction and digestive bleeding (2,3). However, GI infiltration from GCT is uncommon, ranging from 3.6% (1) to 5.1% (3). The article by Fu (4), published in 2012, identified only 15 cases.

A 30-year-old male patient with a history of mental retardation presented with a 4-week general syndrome, vomiting and black stools, as reported by relatives. Physical examination: 120 beats per minute without hypotension, temperature 37.7 °C, cutaneous paleness and a big pulsatile painless mass occupying left hemiabdomen without rigidity. Patient refused rectal examination. Laboratory study: Hemoglobin 5.3 g/dl, without abnormalities in leukocytes, platelets and coagulation study, normal creatinine and mild hyponatremia and hypocalcemia. Computer tomography (CT) showed contrast-heterogeneous retroperitoneal mass extending from celiac axis to common iliac arteries, which probably infiltrated the third duodenal portion (Fig. 1A).

After fluid resuscitation and transfusion, emergency gastroscopy revealed a partial duodenal stenosis with malignant aspect without current active bleeding. Biopsy was not performed because of suspected vascular component of the mass. Magnetic resonance imaging (MRI) reported giant bulky retroperitoneal lymph nodes as a possible origin (Fig. 1B). Finally, percutaneous CT-guided biopsy was performed, suggesting metastasis of seminoma. Testicular ultrasonography revealed a neoplasm in right testicle and the patient underwent inguinal radical orchietomy (histopathology reported as pure seminoma, pT3), followed by chemotherapy (etoposide plus cisplatin). Twelve months after surgery, our patient is alive without any more gastrointestinal bleeding episodes. New CT demonstrated a 1.5 cm residual retroperitoneal mass.

Involvement of GI tract from advanced GCT is rare and so it is a duodenal location, as our patient presented, though its real frequency is not well defined. A postmortem study by Johnson (2) including 78 patients, observed 2 cases of duodenal metastasis out of 21 cases with GI metastasis from GCT. A series by Chait (3) analyzing 487 patients, reported 7 cases over 25, and Sweetenham (1) presented 3 cases out of 6, in 166 patients with GCT. From 1984 to 1989, Nord (5) registered 3 cases of duodenal metastasis over 5 patients with GI involvement from GCT. Finally, a radiological series by Husband (6) found no involvement of duodenum out of 650 patients with GCT, only one patient presented a GI metastasis located in the stomach.

In relation to the affinity for GI tract among different histological types of GCT, it is well-known that seminoma, the one diagnosed in our patient, has a lower GI metastasis rate than non-seminomatous tumors (1-3,5). Because of that, there are actually few cases in literature reporting involvement of duodenum due to metastatic seminoma (7,8). We have also identified two similar cases, both of which corresponded, however, to metastatic choriocarcinomas (9,10).

We conclude that severe anemia due to gastrointestinal bleeding in the context of retroperitoneal bulky metastatic mass infiltrating duodenum as first manifestation of pT3 pure seminoma is an extremely rare case, and this condition must be suspected when a young male patient refers such a clinical condition.

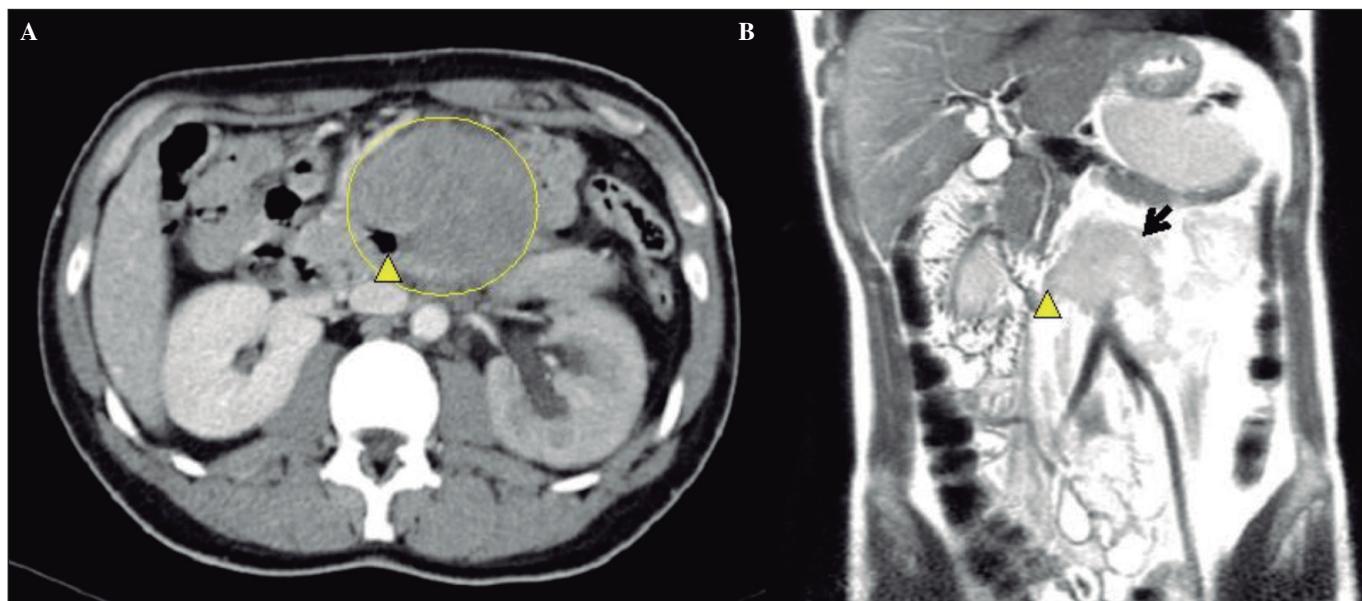


Fig. 1. A. CT showing contrast-heterogeneous retroperitoneal mass, at T12 vertebral body level. Yellow circle indicates this abdominal mass. Yellow arrow head indicates suspected infiltration area of duodenum. B. MRI, coronal section. Black arrow indicates retroperitoneal preaortic mass. Yellow arrow head indicates the mass contacting duodenum.

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References

1. Sweetenham JW, Whitehouse JM, Williams CJ, et al. Involvement of the gastrointestinal tract by metastases from germ cell tumors of the testis. *Cancer* 1988;61:2566-70. DOI: 10.1002/1097-0142 (19880615)61:12<2566::AID-CNCR2820611230>3.0.CO;2-D
2. Johnson DE, Appelt G, Samuels ML, et al. Metastases from testicular carcinoma: Study of 78 autopsied cases. *Urology* 1976;8:234-9. DOI: 10.1016/0090-4295(76)90374-5
3. Chait MM, Kurtz RC, Hajdu SI. Gastrointestinal tract metastasis in patients with germ cell tumor of the testis. *Am J Dig Dis* 1978;23:925-8. DOI: 10.1007/BF01072468
4. Fu S, Avezbakiyev B, Zhi W, et al. Germ cell cancer presenting as gastrointestinal bleeding and developing brain metastases: case report and review of the literature. *Future Oncol* 2012;8:1487-93. DOI: 10.2217/fon.12.133
5. Nord C, Fosa SD, Giercksky KE. Gastrointestinal presentation of germ cell malignancy. *Eur Urol* 2000;38:721-4. DOI: 10.1159/000020368
6. Husband JE, Bellamy EA. Unusual thoracoabdominal sites of metastasis in testicular tumors. *Am J Roentgenol* 1985;145:1165-71. DOI: 10.2214/ajr.145.6.1165
7. Senadhi V, Dutta S. Testicular seminoma metastasis to the gastrointestinal tract and the necessity of surgery. *J Gastrointest Cancer* 2012;43:499-501. DOI: 10.1007/s12029-011-9274-0
8. Miocinovic R, Abaza R. Testicular seminoma presenting with duodenal perforation: A case report. *J Med Case Rep* 2008;2:294. DOI: 10.1186/1752-1947-2-294
9. Fosado Gayoso M, Pérez Hernández JL, Bernal Sahagún F, et al. Upper gastrointestinal bleeding as an initial manifestation of metastasis, secondary to a choriocarcinoma in a patient suffering from testicular mixed germ cell tumour. *Rev Esp Enferm Dig* 2011;103:46-7. DOI: 10.4321/S1130-01082011000100013
10. Iglesias J, Lopez E, Macías F. Severe gastrointestinal bleeding secondary to duodenal metastasis from a choriocarcinoma. *Rev Esp Enferm Dig* 2009;101:720-2. DOI: 10.4321/S1130-01082009001 000008