

Adenocarcinoma with choriocarcinoma and an endodermal sinus element in a patient with metastatic stomach cancer

A 67-year-old male with no comorbidity was admitted with the complaint of right upper quadrant abdominal pain over the past month. Physical examination was significant for hepatomegaly and tenderness in the right upper quadrant. Histopathologic findings following esophagogastroduodenoscopy revealed an invasive adenocarcinoma. Tumor markers were significant for alpha-fetoprotein (AFP) of 3,912 ng/mL and CA 19-9 of 109 U/mL; the level of carcinoembryonic antigen (CEA) was normal. A CT scan of the abdomen showed extensive liver and lung metastases. Liver enzymes were elevated, with alkaline phosphatase (ALP) 453 IU/L, aspartate aminotransferase 81 IU/mL, alanine aminotransferase 83 IU/mL.

An exploratory laparotomy with a partial gastrectomy, gastrojejunostomy, and feeding jejunostomy was performed. Histopathologic examination confirmed the presence of a moderate to poorly differentiated invasive adenocarcinoma, with features of a germ-cell tumor (endodermal sinus tumor with focal areas of choriocarcinoma). Subsequent to this diagnosis, the patient was started on chemotherapy, which included cisplatin (45 mg) and paclitaxel (100 mg). He tolerated the chemotherapy well but suffered massive hematemesis and died 4 days later. A repeat AFP test drawn prior to his death showed a level of 14,230 ng/mL.

Discussion

Yolk-sac tumors are uncommon

germ-cell tumors initially described in the gonads,¹ but approximately 5% of these tumors arise in extragonadal sites² (eg, pineal gland, mediastinum, and retroperitoneal and sacrococcygeal regions³). The esophagus as a primary site for a yolk-sac tumor has been reported only once.⁴

Gastric adenocarcinoma with a yolk-sac component is a rare malignant neoplasm. To our knowledge, only six cases have been reported in the literature.⁵⁻¹⁰ The serum AFP level was raised in two of these cases.^{7,10} All but one⁸ of the reported tumors showed varying proportions of a conventional gastric adenocarcinoma, an intestinal or diffuse growth pattern with signet-ring morphology, and a yolk-sac tumor with an endodermal sinus or glandular component. The presence of choriocarcinoma was reported in one case,⁶ and tumor elements that showed a transition between adenocarcinoma and a yolk-sac tumor were noted in two cases.^{7,10}

The reported number of gastric adenocarcinomas with a yolk-sac component is too small to predict outcome, although it appears from the reported cases that the prognosis is as grim as that of gastric adenocarcinoma without a germ-cell component. Our patient had an invasive adenocarcinoma with features of an endodermal sinus tumor along with focal areas of choriocarcinoma. Despite the presence of germ-cell components, which are usually responsive to chemotherapy, this tumor behaved more like a gastric adenocarcinoma in not responding to aggressive cisplatin-based chemotherapy.

Renuka Gupta, MD
Sagar Verma, MD
Mathur Siddarath, MD
Deepthi Bollineni, MD
Harinder Sawhney, MD
Pradeep Chandra, MD
Department of Medicine
Wyckoff Heights Medical Center
Brooklyn, NY

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