CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 37 (2017) 216–220

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Collision tumor of choriocarcinoma and small cell carcinoma of the stomach: A case report

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ARTICLE INFO

Article history:
Received 3 March 2017
Received in revised form 23 June 2017
Accepted 25 June 2017
Available online 8 July 2017

Keywords:
Case report
Choriocarcinoma
Collision tumour
Endocrine carcinoma
Human chorionic gonadotropin
Small cell carcinoma

ABSTRACT

INTRODUCTION: Both gastric choriocarcinoma and small cell carcinoma are extremely rare, both accounting for approximately 0.1% of all gastric cancers. Therefore, simultaneous occurrence of gastric choriocarcinoma and small cell carcinoma is even rarer.

PRESENTATION OF CASE: An 84-year-old Japanese man was referred to our hospital with the chief complaint of dysphagia. Laboratory data showed iron deficiency anemia. Contrast-enhanced computed tomography of the abdomen revealed thickened wall of the stomach at the fundus and several enlarged abdominal lymph nodes. Upper gastrointestinal endoscopy showed a friable gastric tumor with necrosis in the gastric cardia extending to the abdominal esophagus. Small cell carcinoma was diagnosed based on pathological examination of biopsy specimens. The anemia, which was probably because of tumor bleeding, progressed despite repeated transfusion; therefore, a semi-urgent laparotomy was performed to control hemorrhage. Finally, total gastrectomy and lymph node resection were performed. Based on pathological findings, a diagnosis of collision tumor of choriocarcinoma and small cell carcinoma of the stomach was confirmed.

DISCUSSION: When encountering large tumors with necrosis or hemorrhage in the stomach, the possibility of choriocarcinoma component should be considered. Moreover, when small cell carcinoma is morphologically suspected, even if slightly, additional immunohistochemical staining must be performed.

CONCLUSION: This report detailed an extremely rare case of collision tumor of choriocarcinoma and small cell carcinoma of the stomach.

1. Introduction

Although most choriocarcinomas occur in the uterus in relation to pregnancy, some may occur without any relation to it, arising in the ovary or testes and rarely in the stomach [1–3]. Small cell carcinomas occur primarily in the lungs and rarely at extra-pulmonary sites, including the stomach [4,5]. Both gastric choriocarcinoma and small cell carcinoma are aggressive neoplasms and the prognoses of these tumors are poorer than that of the common-type gastric cancer [3,5]. Several theories have been reported to explain the pathogenesis of gastric choriocarcinoma and small cell carcinoma. Among them, one of the most widely accepted is the dedifferentiation theory: gastric choriocarcinoma and small cell carcinoma are proposed to arise by overgrowth and elimination of the original adenocarcinoma [6,7].

Both gastric choriocarcinoma and small cell carcinoma are extremely rare, both accounting for approximately 0.1% of all gastric cancers [6,8,9]. Therefore, simultaneous occurrence of gastric choriocarcinoma and small cell carcinoma is even rarer. Here, we report such an extremely rare case. The work has been reported in line with the SCARE criteria [10].

2. Presentation of case

An 84-year-old Japanese man was referred to our hospital with the chief complaint of dysphagia. The patient reported a 10-kg

Abbreviations: AFP, α-fetoprotein; CD56, cluster of differentiation 56; CT, computed tomography; hCG, human chorionic gonadotropin; NSE, neuron-specific enolase.

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http://dx.doi.org/10.1016/j.ijscr.2017.06.055

weight loss in 3 months. He was an ex-smoker of 1 pack per year for 25 years and was a social drinker. He also had a history of diabetes mellitus, hypertension, hyperlipidemia, and angina pectoris. His blood pressure was 108/49 mmHg, pulse was 75 beats per minute, and body temperature was 36.9 °C. Physical examination showed no swelling of superficial lymph nodes. Laboratory data showed the presence of iron deficiency anemia (hemoglobin, 7.3 g/dL). Tumor markers, including carcinoembryonic antigen and carbohydrate antigen 19–9, were within normal ranges, but α-fetoprotein (AFP) level was elevated by 166.2 ng/mL (normal level, <10 ng/mL).

Contrast-enhanced computed tomography (CT) scan of the abdomen revealed thickened wall of the stomach at the fundus and several enlarged abdominal lymph nodes. Upper gastrointestinal endoscopy revealed a friable gastric tumor with necrosis in the gastric cardia extending to the abdominal esophagus (Fig. 1). Microscopic examination of the endoscopic biopsy specimens showed solid growth of small cells with hyperchromatic nuclei and scant cytoplasm (Fig. 2a). Small cell carcinoma was suspected morphologically, and additional immunohistochemical staining of chromogranin A, synaptophysin, cluster of differentiation 56 (CD56), and neuron-specific enolase (NSE) were performed. Positive staining for chromogranin A and synaptophysin and negative staining for CD56 and NSE in the cytoplasm of cancer cells were noted, and a diagnosis of small cell carcinoma was established (Fig. 2b–e).

The anemia, which was possibly because of tumor bleeding, progressed despite repeated transfusion. A semi-urgent laparotomy was performed to control bleeding. Accumulation of serous ascites was observed under the left diaphragm and in the pouch of Douglas. Exploration of the abdomen at the time of surgery revealed no evidence of metastasis to the liver or peritoneum. Finally, total gastrectomy and lymph node resection was performed.

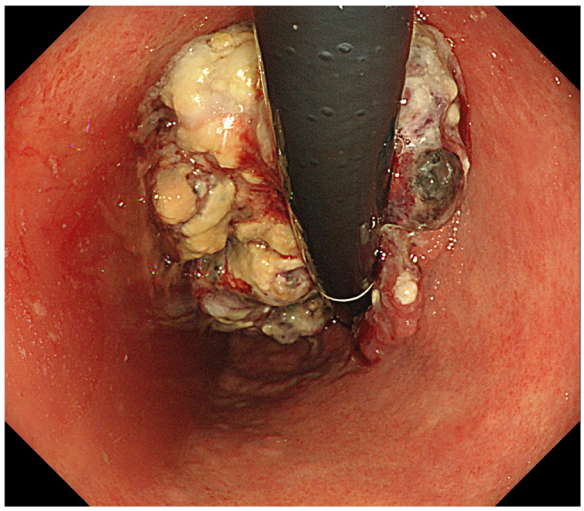

Fig. 1. Upper gastrointestinal endoscopy showing a friable gastric tumor with necrosis in the gastric cardia and extending to the abdominal esophagus.

Size of the resected tumor was 90 × 75 mm, and it was accompanied by necrosis and hemorrhage (Fig. 3). Microscopic evaluation following hematoxylin–eosin staining showed that the hemorrhagic and necrotic areas showed two histological types: cytotrophoblastic cells with single oval nuclei and syncytiotrophoblastic cells with multiple bizarre nuclei (Fig. 4a).

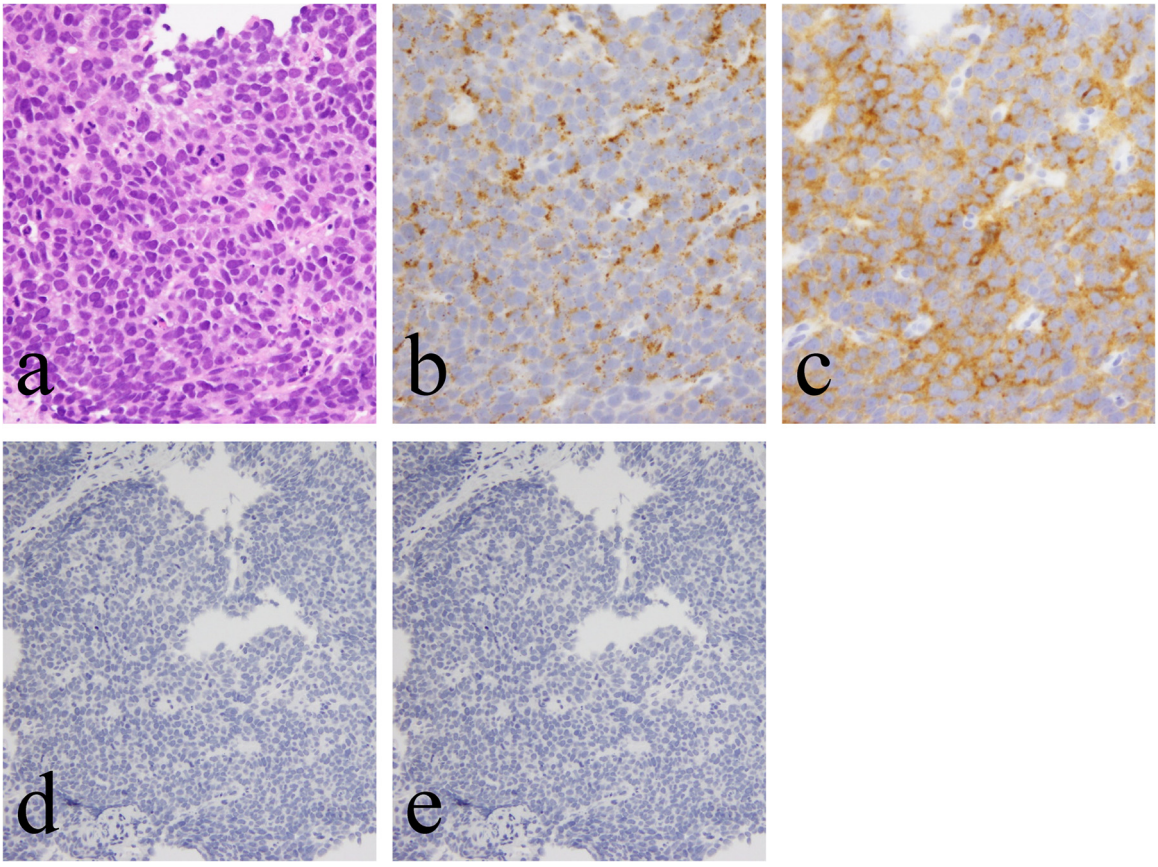

Fig. 2. (a) Microscopic evaluation of biopsy specimens showing solid growth of small cells with hyperchromatic nuclei and scant cytoplasm. (b)–(e) Immunohistochemical staining showing cancer cells stained positive for chromogranin A (b) and synaptophysin (c) and negative for cluster of differentiation 56 (d) and neuron-specific enolase (e) in the cytoplasm.