

Solitary Gastric Metastasis from Ovarian Cancer

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Abstract: Gastric metastasis from ovarian cancer is rare and usually occurs in advanced stages. We describe a case of a 61-year-old woman who presented with a solitary gastric submucosal tumor years after the diagnosis of a stage IIIc ovarian serosal and papillary carcinoma. Endoscopy showed a submucosal lesion covered with an ulcerated gastric mucosa. Biopsy revealed an adenocarcinoma of unknown origin. The patient underwent a distal gastrectomy and the final histological exam confirmed the diagnosis of gastric metastasis from ovarian serous adenocarcinoma. We concluded that gastric submucosal tumors in patients with a history of ovarian cancer, must suggest the secondary origin of these lesions.

Key words: Ovarian cancer, Micropapillary carcinoma, Gastric metastasis, Submucosal tumor.

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I. Introduction

Metastatic disease involving the stomach is unusual and most of gastric metastasis arises from primary breast cancer, followed by melanoma and lung cancer (1). Gastric metastasis from ovarian carcinoma is extremely rare because ovarian carcinoma usually spreads along the peritoneum and throughout the pelvic and abdominal cavities (1). We herein describe the case of a symptomatic solitary gastric recurrence 4 years after the initial ovarian carcinoma was diagnosed.

II. Case report

In June, 2012, a 61-year-old female was treated for a bilateral ovarian serosal and papillary carcinoma with pelvic peritoneal dissemination (stage IIIc FIGO). She had a bilateral salpingo-oophorectomy, simple hysterectomy, appendectomy, and total omentectomy. The patient received six cycles of adjuvant chemotherapy with Paclitaxel and Cisplatin followed by a pelvic and para-aortic lymph node dissection. Histological examination did not reveal lymph node involvement. After a clinical radiological and biological complete response within two years, the patient presented with reelevated CA125 levels (446 U/mL) and a left pelvic lymph node recurrence was detected via computed tomography without any signs of distant metastasis. The patient underwent a secondary debulking cytoreductive surgery of the lymph node pelvic mass measuring 5 cm, followed by three cycles of adjuvant chemotherapy with Paclitaxel and Cisplatin. The patient remained free of disease until mars 2016, when she complained from epigastric pain, melena, and nausea. Esophago-gastroduodenoscopy (EGD) revealed a 20-mm elevated lesion with ulceration at the top of the gastric antrum (Fig. 1).

Gastric biopsy revealed an adenocarcinoma of unknown origin. The CT scan found a 30×20 mm mass of the gastric antrum with perihepatic and perigastric lymph node involvement. No other distant metastasis or signs of peritoneal relapses were detected. CA-125 level was increased from 20 U/ml to 185 U/mL and CEA level was normal.

The patient underwent explorative laparotomy. A 3cm isolated mass on the gastric antrum with multiple enlarged perigastric, perihepatic and celiac nodes were found. A distal gastrectomy with a Finsterer-Hofmeister anastomosis and lymph node dissection was performed.

The resected stomach had an ulcerated tumor that measured 35×20×15-mm. On a cut section, this tumor was situated in the muscularis propria, and bulged into the mucosa which was ulcerated. Microscopically, serous papillary adenocarcinoma cells infiltrated in to normal gastric tissues with cancer embolus in the vessels. Perigastric and perihepatic metastatic lymph nodes were found in the specimen. The immunohistochemical staining results confirmed the diagnosis of gastric metastasis from ovarian serous adenocarcinoma (Fig2).

Despite the administration of additional chemotherapy with cisplatin and Gemcitabine, the patient presented a diffuse peritoneal metastasis six months later.



Fig1: Esophagogastroduodenoscopy (EGD) revealed a 20-mm elevated lesion with ulceration of the gastric antrum

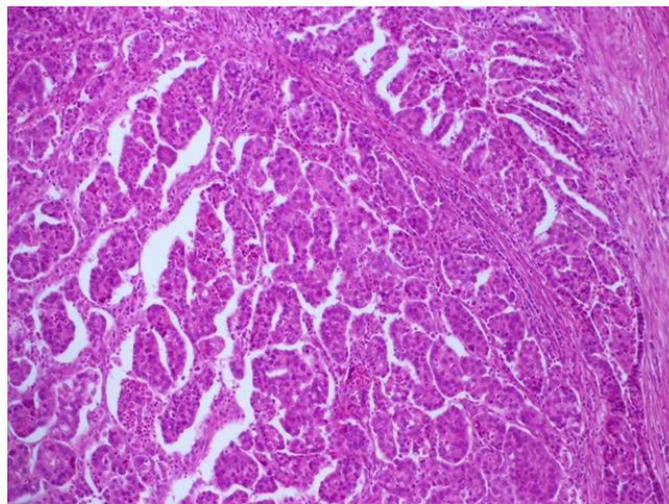


Fig2: High-grade serous carcinoma: Papillary structures with marked cytological atypia and mitotic figures.

III. Discussion

Relapses of ovarian cancer occurs usually to the peritoneum leading to ascites and intestinal obstruction also, it may directly spreads to the surrounding structures or metastasize to the lymph nodes (2), which is the case of the first recurrence of our patient. Hematogenous spread of ovarian tumors occurs infrequently to organ parenchyma like the liver and lungs (3). However, the stomach receives a rich blood supply, it should be considered as a possible target organ of metastasis. The absence of peritoneal seeding and involvement of the entire gastric wall and the presence of invaded lymph nodes in our case suggest that the gastric metastasis occurred via lymphatic channels and through the hematogenous route.

The clinical manifestations of metastasis to the stomach are non specific including epigastric pain, melena, anemia, nausea, and vomiting (1). However, the majority of reported cases were asymptomatic due the most common gross appearance of gastric metastasis from ovarian cancer as a submucosal tumor (SMT) without mucosal involvement (4). In asymptomatic patients, the rise of CA-125 levels may be the only warning sign (5).

Histologically, the differential diagnosis with a primary invasive micropapillary gastric carcinoma is not always obvious and clinical information as well as the comparison with the histological aspect of the primary ovarian cancer are mandatory indispensable (6). Immunohistochemistry resolves this issue in some difficult cases since PAX8, WT1, and ER are highly sensitive to ovarian adenocarcinoma, whereas CEA and CDX2 are sensitive to gastric adenocarcinoma (7).

Metastatic tumors in the stomach are usually treated by systemic therapy rather than surgery. However, surgical resection may be performed when there is a risk of bleeding, tumor perforation, an uncertain diagnosis, or a solitary metastasis (2,8). Local excision without radical lymphadenectomy following adjuvant chemotherapy is also effective and recommended (9). In this case, surgical resection with radical lymph node dissection was performed because of the tumor bleeding and uncertain diagnosis of a secondary gastric tumor since the biopsy had found an adenocarcinoma of unknown origin without any other signs of usual spread of ovarian cancer such as peritoneal seeding and ascites.

The prognosis of gastric metastases of ovarian carcinoma remains unknown; a 1-year survival rate can be optimistically expected (10). Kobayashi et al. reported in their study of 9 cases of metastatic gastric tumor (MGT) that the median survival time after a MGT diagnosis was 170 days (range, 16~892 days) for all cases; 384 days for patients who underwent gastrectomy, and 27 days for those without active treatment ($p=0.002$) suggesting an improvement of survival with a surgical approach (11).

IV. Conclusion

Even if gastric metastasis from primary ovarian cancer is rare they should be suspected in any patient with a history of ovarian adenocarcinoma who presents with gastric tumor. Surgical management can be proposed as a palliative approach in order to prevent tumoral complications.

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