Bilateral Krukenberg tumor in a 16-week pregnant woman

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Summary

The authors present the case of a G2P1001 who presented in 16-week gestation with bilateral Krukenberg tumor, abdominal pain, and iterative vomiting episodes. Although a few cases of Krukenberg tumor in pregnant women have been reported, no case reports asymptomatic and free of disease at 18 months were found in the English literature. Early detection followed by surgery and chemotherapy during pregnancy could possibly result in a favorable outcome in such patients.

Key words: Chemotherapy; Krukenberg tumor; Pegnancy.

Introduction

Only a small minority of adnexal masses detected at pregnancy is malignant. Krukenberg tumor refers to gastrointestinal cancer metastatic to the ovaries and accounts for one to two percent of all ovarian tumors [1]. Thus they are a diagnostic and treatment challenge to the physician. The authors present a case report of a woman 16 weeks pregnant with bilateral ovarian tumors, abdominal pain, and iterative vomiting episodes.

Case Report

A 31-year-old woman, gravida 2 para 1, was admitted to the present hospital with intensive abdominal pain and iterative vomiting episodes. The patient complained of mild bloating and early satiety for one year before pregnancy, and these complaints were attributed to gastritis and gastroesophageal reflux. Thus, one year ago she underwent gastric endoscopic biopsies and the pathology result was erosive gastritis. The patient received antacid medication.

The physical examination, radiological imaging, and ultrasound examination showed mobile tumors in both ovaries. Transabdominal color Doppler examination showed bilateral asymmetrically encapsulated solid ovarian masses, with the right ovary measuring 15.5 x 12.5 x 7 cm and the left ovary measuring 9.6 x 5.7 x 6.3 cm. Color Doppler ultrasonography showed few vascular structures inside the ovarian masses. Pelvic magnetic resonance imaging revealed a gravid uterus and bilateral adnexal mass lesions which were hypointense in T1-weighted images and hyperintense in T2-weighted images (Figure 1).

Because of suspected ovarian semitorsion, the authors performed urgent surgery. At laparotomy, bilateral ovarian tumors and ascites were identified. No visceral metastases were noted. The right ovary and fallopian tube were removed and a wedge biopsy was taken from the left ovary. Histological examination of the specimen yielded the diagnosis of Krukenberg tumor. Upper gastrointestinal endoscopy and sigmoidoscopy were performed to locate the primary tumor. This revealed a small malignant ulcer with a diameter of 12 mm at the corner of the greater curvature of the stomach. A biopsy was performed and microscopic examination of the stomach specimens revealed an epithelial malignant tumor. At the postoperative period, patient's family did not consent to terminate the pregnancy. Thus, the authors began postoperative chemotherapy in the 26th week with two cycles of docetaxel (75 mg/m^2), carboplatin (five AUC) and 5-fluorouracil (500 mg/m^2) every three weeks

At 33 weeks, the patient underwent an elective cesarean delivery and left oophorectomy (There was a ten-cm tumor in left ovary). A virilized female infant weighing 1,850 g was delivered by cesarean section with Apgar scores of 6 and 8 at one and five min, respectively (Figure 2). Beginning at two weeks after surgery, the patient was given five cycles of the same chemotherapy drugs schedule every four weeks. No metastases were detected after chemotherapy. However, the primary gastric neoplasm did not recover. Therefore, the patient underwent total gastrectomy.

Discussion

Krukenberg tumors in pregnancy are very rare and their management can present a dilemma for the obstetrician and gynecologist. Krukenberg tumor refers to a gastrointestinal cancer metastatic to the ovaries and accounts for one to two percent of all ovarian tumors [1]. The persistent gastrointestinal symptoms mimicking the early nausea and vomiting of pregnancy mask the presentation of a tumor in the stomach. Growth of the fetus leading to abdominal distension masks the presence of the metastatic ovarian tumor in the pelvic cavity. For this reason, early diagnosis of the tumor may be delayed [2, 3]. Persistent unusual gastrointestinal symptoms require careful evaluation by ultrasound and panendoscopic examination. Fetal virilization may occur during pregnancy as the result of advanced malignant disease and ovarian Krukenberg tumor. Mechanism of the androgen overproduction in this exceptional condition is still poorly understood [4].

Tamussino *et al.* reported that the cornerstone of the management of these tumors is the localization of the gastrointestinal primary tumor, the prognosis being worsened when the primary tumor is identified after the ovarian metastasis is discovered [5]. However, 18

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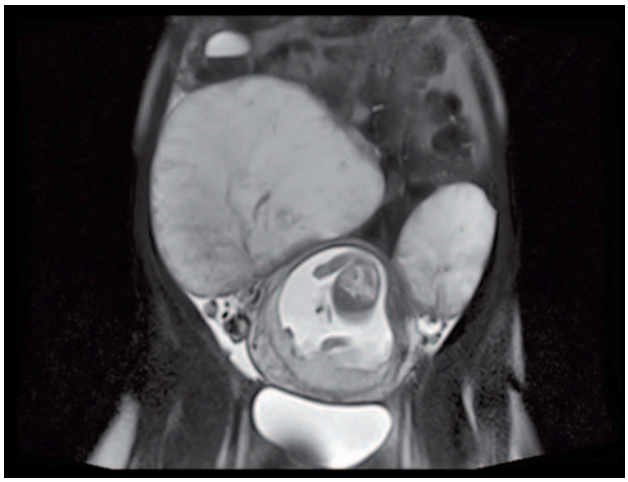

Figure 1. — Coronal T2-weighted image shows a gravid uterus and homogenous hyperintense solid mass lesion at both iliac fossae, with the right mass being greater than the left one.

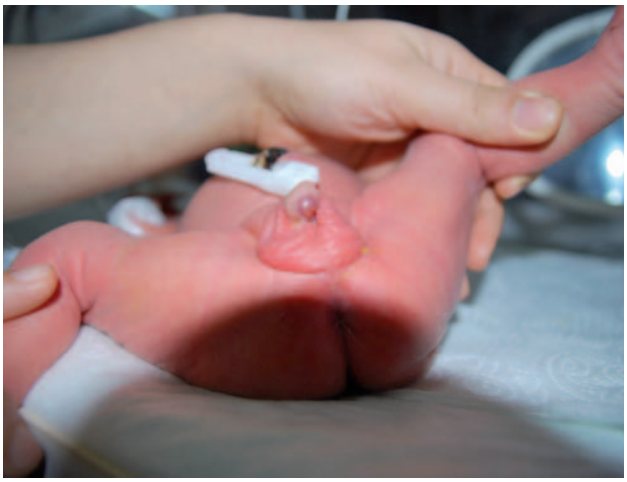

Figure 2. — A female infant showing signs of virilization.

months passed since the initial diagnosis of metastatic gastric carcinoma in the presented patient and she remains asymptomatic and free of disease. This unexpectedly favorable clinical outcome suggests that a patient may benefit from resection of gastric carcinoma metastatic to ovary when no other sites of metastatic disease are present and the patient receives chemotherapy with invasive surgery.

Early detection followed by surgery and chemotherapy could possibly result in a favorable outcome in such patients.

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