




Metastatic gastric cancer in a full-term pregnancy

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INTRODUCTION

Gastric cancer is rarely associated with pregnancy. Nevertheless, the incidence has been increasing in recent times [1, 2]. This report aims to increase understanding of the infrequent association between gastric cancer and pregnancy, with the hope that this greater awareness will allow future clinicians to make earlier diagnoses that will lead to better perinatal outcomes.

CASE REPORT

The case is a 24-year-old pregnant woman at 37 weeks of gestation, with an obstetric history of two vaginal births and two abortions. There was no significant medical or family history. The patient was admitted in June 2021, via the Emergency Department, with uterine contractions and mild shortness of breath. She also experienced nausea and vomiting, pelvic pain and difficulty walking for the three weeks prior to admission. On admission, she had a blood pressure of 110/70 mmHg, heart rate of 88 beats per minute, respiratory rate of 22 breaths per minute, temperature of 36.7°C and oxygen saturation of 99%. She had a cervical dilation of 1 cm, 50% effacement, –3 cm foetal station, and intact membranes.

In the context of the COVID-19 pandemic, and due to her respiratory symptoms, an antigen test and a chest X-ray were performed. The results of these were both negative. Other routine laboratory tests were also normal. Given the delay of progression of the first stage of labour, misoprostol was administered to encourage cervical ripening. Subsequently, due to inadequate contractions, endovenous oxytocin was administered. Cervical dilation did not progress beyond 5 cm. Due to arrest of the first stage of labour, a caesarean section was performed.

During the caesarean section, gross inspection of the abdominal cavity showed a thickened nodular parietal peritoneum, although the patient had undergone no previous surgeries. Approximately 3 litres of straw-coloured ascites fluid were also seen. The anterior aspect of the uterus had a pale surface with multiple nodules of miliary appearance. The posterior aspect of the uterus, the fallopian tubes, and the ovaries had a similar appearance. The bladder was collapsed with thickened walls. Multiple yellow nodules were observed in the parietal peritoneum, the surface of the intestines, and on the retroperitoneum, with the largest nodule measuring around 0.5 cm. Bowel walls were also thickened. A general surgeon was called into the operating room to perform peritoneal biopsy samples.

A healthy, 38-week female newborn, appropriate for gestational age, was delivered. She weighed 2,856 grams. She had a favourable clinical course and was discharged on her third day. She had a subsequent clinical examination on the sixth day without any concerns.

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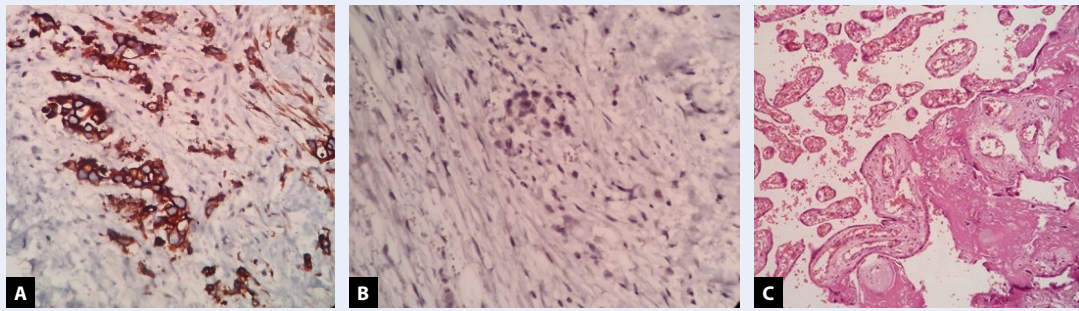


Figure 1. **A.** Peritoneal biopsy showing poorly differentiated epithelial malignant neoplasia, cytokeratin 7 positive; **B.** Peritoneal biopsy showing poorly differentiated epithelial malignant neoplasia, cytokeratin 20 negative; **C.** Third trimester placenta with intervillous fibrin deposits

Given the regional context, peritoneal tuberculosis was ruled out after the relevant examinations were conducted. The biopsy results showed a poorly differentiated, metastatic epithelial malignancy. Immunohistochemical analysis was positive for cytokeratin 7, and negative for cytokeratin 20. It also showed a focal CDX2 positivity, with negative CDH17 and PAX8 (Fig. 1A, B). Placental histology showed a third-trimester placenta with intervillous fibrin deposits (Fig. 1C).

The patient requested a voluntary discharge against medical advice, on the third day after the caesarean section. She was re-admitted eleven days later, after developing abdominal pain, early satiety and decreased appetite. Ascites was again seen during the physical examination. Subsequent studies were performed to try to identify the primary malignancy. An abdominal CT scan showed nodular thickening of the peritoneum (likely carcinomatosis), thickening of the gastric fundus, inflammatory thickening of the small intestine, as well as moderate fatty changes in the liver. Computed tomography scans of the neck and osseous pelvis were unremarkable. A CT scan of the thorax revealed pulmonary effusions and right lung atelectasis. Tumour marker analysis showed elevated AFP, CA125 and CA199, while CEA and CA153 were within the normal range. An upper gastrointestinal endoscopy was performed, which revealed a Borrmann Type IV gastric neoplasia. Further gastric biopsies showed an infiltrative, poorly differentiated gastric adenocarcinoma. Immunohistochemistry analysis was positive for pan-cytokeratin and negative for CD45.

The patient deteriorated quickly; a nasojunal transpyloric catheter was placed for enteral feeding. Subsequently, she was transferred to a specialised institution for palliative chemotherapy. She died 35 days post-partum.

CONCLUSIONS

In the literature, 36 weeks was the latest gestational age at which diagnosis for gastric cancer was made, as reported by Yildiz [1] in Turkey. In our case, the delay in diagnosis could have been related to the COVID-19 pandemic. Even though the patient had prenatal follow up, these appointments were primarily held virtually.

The literature also highlights how the frequency of cancer associated with pregnancy is rising, potentially due to increased maternal age. Gastric cancer is no exception. The highest incidence occurs in pregnant individuals between the ages of 30 and 40. These findings are supported by recent reports from Patan [2], Yildiz [1] and Fory [3]. However, in our case, the patient was only 24 years old, similar to the cases reported by Prieto-Montaño [4] and Whittington [5].

In conclusion, given the overlap of symptoms between gastric cancer and pregnancy, a high clinical suspicion is required to make an early diagnosis, which could potentially improve maternal outcomes. The case presented had similar clinical and histologic characteristics as those reported in high incidence regions.

Conflicts of interest

None of the authors reports any conflict of interest.

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