A case of Krukenberg tumor metastasized from colon cancer in pregnancy
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Objective
Krukenberg tumor refers to gastrointestinal cancer metastatic to the ovaries and has an extremely poor prognosis, with a 5-year survival rate ranging from 12% to 23.4%. Gastric cancer has been reported as the most frequent primary source of Krukenberg tumor; however, tumors of the colon, appendix, breast, lung, and pancreas have also been reported to metastasize into the ovaries. Krukenberg tumors are usually seen in the fifth decade of life, with an average age of 45 years and cases diagnosed during pregnancy are thus extremely rare.

Methods
We report a case of a Krukenberg tumor secondary to colon carcinoma in a pregnant woman with acute pelvic pain. The prenatal diagnosis was made at 17 weeks' gestation.

Results
A 27-year-old, primigravida with a semisolid right adnexial mass was presented with acute pelvic pain at 17 weeks' gestation. Ultrasonography revealed a semisolid right adnexial mass of 140×130 mm and ascites, as well as a single live fetus compatible for gestational age. The abdomen was tense, tender and distended so exploratory laparotomy was performed with the suspicion of ovarian torsion. During the operation, ascites, enlarged right ovary with the presence of a necrotic tumor measuring 160×140 mm causing ovarian torsion and omental metastasis were seen. Unilateral oophorectomy and omentectomy were then performed. Histopathological examination of the specimen revealed adenocarcinoma metastasis to the ovary and the omentum probably originating from a primary gastrointestinal carcinoma (Figure-1). Immunohistochemically positive reactions were seen for cytokeratin 20 (+++) and CEA (+++) (Figure-2). Cytological examination of the ascites revealed no malignant cells. The upper gastrointestinal endoscopy was normal but the colonoscopy revealed a tumor in the descending colon filling the two-thirds of the lumen. Multiple biopsies were performed and histopathological examination revealed a primary colon adenocarcinoma. The pregnancy was terminated due to poor maternal prognosis.

Conclusion
There is no data currently support a role for concurrent pregnancy in influencing the growth rate or spread of ovarian cancer. However, there does seem to be an increased incidence of acute presentation in pregnancy, precipitated by tumor torsion or rupture. Our patient was presented with features of acute abdomen caused by tumor torsion. Krukenberg tumors are usually seen in the fifth decade of life and because of its poor prognosis, early diagnosis and treatment is of great significance. Awareness of its occurrence in younger patients and even during pregnancy would help in timely detection.