

Bilateral Krukenberg Tumor in a Pregnant Lady: A Case Report

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Abstract- Krukenberg tumors are rare metastatic ovarian tumors with its primary site being the gastrointestinal tract as a most common site and poor prognosis. We hereby, present a 25-year-old pregnant female suffering from abdominal pain and iterative vomiting episodes. She was diagnosed with a terminal stage of the malignant disease. She underwent total ovariectomy without any radiotherapy. Histological examination of the specimen yielded diagnosis of Krukenberg tumor. Ten days later, the patient underwent a natural vaginal delivery in the 25th gestational week because of labor pain, and we extracted a dead male newborn of 31 cm, 510 g, AP score 0. Three weeks later, the patient died because of pulmonary failure.

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Introduction

Krukenberg tumor as a rare metastatic ovarian tumor is an ovarian adenocarcinoma metastasis accounting from 1- 2% of all ovarian tumors. It is usually but not always a bilateral involvement of ovaries that is metastasized from a primary site, classically gastrointestinal tract with 76% originating from the stomach and rarely from other gastrointestinal (GI) and non-GI tissues such as the breast (1,2).

The prognosis of a Krukenberg tumor is inevitable poor and the median survival.

The period is only 14 months since such metastasis involves rapid cell growth and proliferation. Pathologically, distinguishing Krukenberg tumor from a primary ovarian cancer is not always easy, but it is very important clinically to distinguish Krukenberg tumor from the primary ovarian cancers because the treatment protocols, chemotherapy response, and prognosis are significantly different. However, no optimal treatment strategy for Krukenberg tumors from gastric cancer has been clearly established (2,3).

Case Report

A 25-year-old pregnant lady, 0-para, 1-gravida, and gestation of 22 weeks was admitted to our clinic with complaints of severe abdominal pain and iterative vomiting episodes. A transabdominal ultrasound

revealed a tender mass of size 12×10×8.4 cm cystic to the firm in consistency occupying the left lumbar iliac extending into the pelvis and left hypochondriac region was found with huge free fluid in the abdomen and left pleural effusion. The level of Tumor marker CA-125 was highly elevated, 183 U/ml (Normal-35 U/ml) and carcinoembryonic antigen were normal.

Liver and renal function tests and other routine investigation did were normal except mild anemia (RBC 3.4, Hb9.4 g/dl, Hct27.9%) and leukocytosis (11.0). Because of suspected ovarian tumor and ascites, laparotomy was done showing bilateral ovarian tumors yielded a 20 cm right ovarian mass, stomach involvement and three liters of ascitic fluid. The patient was underwent total oophorectomy, ovary and gastric biopsy was also done.

Microscopically, Krukenberg tumor was characterized by the presence of signet ring cells with eccentric nucleus, filled with mucus and proliferation of stromal pseudosarcomatous. The tumor cells' had high nucleocytoplasmic ratio, pleomorphic nuclei and moderate to abundant cytoplasm (Figure 1, 2).

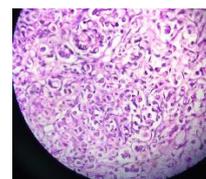


Figure 1. ovarian mass, signet ring cell with eosinophil cytoplasm

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Bilateral krukensberg tumor

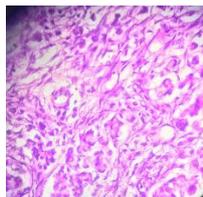


Figure 2. Ovarian mass, signet ring cell with eosinophilic cytoplasm

The ascitic fluid was negative for malignancy.

Upper gastrointestinal (GI) endoscopy was planned because of patient hematemesis. The result showed ulcer proliferative growth in greater curvature of stomach for which biopsy was taken. Poorly differentiated adenocarcinoma with focal signet ring cell formation was the biopsy report.

Urea-creatinine values started to increase after the operation, and bilateral hydronephrosis was found in renal ultrasonography. First, urethral catheter was inserted into the case, but urine flow was not obtained probably due to retroperitoneal edema related to surgery. Thereupon, bilateral nephrostomy catheter was inserted and then acute kidney failure status retrogressed. The patient was discharged and referred for the oncology department, but the patient didn't follow any treatment.

Two weeks later, the patient has admitted the delivery department because of labor pain. A death male baby having Apgar score of 0 and weighing 510 gram was born by natural vaginal delivery. Although after delivery the patient was referred for radiotherapy, the patient denied receiving any radiotherapy, and three weeks later, she died because of pulmonary failure.

Discussion

Krukenberg tumors as a metastatic signet ring cell adenocarcinoma of the ovary tend to be in younger age groups with median age of 45 years accounting for 1.2% of all ovarian tumors (4,5).

The stomach is the primary site in most Krukenberg tumors (70%). Carcinomas of colon, appendix, and breast (mainly invasive lobular carcinoma) are the next most common primary sites. Although ovarian metastasis is frequently seen in connection with breast cancer, the Krukenberg tumor of breast origin is a rare condition (1,6,7).

Treatment of known Krukenberg tumors during pregnancy raises difficult questions for both patient and physician since both the life of the mother and the fetus need to be considered, especially for Krukenberg tumors discovered in the third trimester of pregnancy. Fetal asphyxia and fetal virilization may occur during

pregnancy as the result of advanced malignant disease and ovarian Krukenberg tumor.

Optimal management should involve expedited delivery of the child, either through premature induction of labor or cesarean section, followed by surgical treatment of the tumor as soon as the mother has recovered from the stress of delivery.

Most common presenting symptoms are abdominal pain, nausea, and vomiting (5).

The persistent gastrointestinal symptoms are mimicking early nausea and vomiting of pregnancy mask the presentation of a tumor in the stomach. The growth of the fetus leading to abdominal distension masks the presence of the metastatic ovarian tumor in the pelvic cavity. Thus, early diagnosis of the tumor may be delayed (8).

Review of the literature has identified a number of diagnostic and management issues that appear to impact on survival (9). These include the timing of definitive diagnosis of Krukenberg tumors, the timing of operation for oophorectomy and concurrent pregnancy status. So, the median survival time from diagnosis to death is approximately one year only (10,11).

Although there are no optimal treatment strategies for Krukenberg's tumors, the role of tumor-free surgery and platinum-based chemotherapy is reasonable to improve the overall prognosis of disease (5).

Our case had the further complication of being associated with pregnancy. Unfortunately, the overall survival of our patients was two months. The factors of poor prognosis in our patients are the late diagnosis, terminal stage of malignant disease, the presence of ascites and low degree of cooperation to receive medication. Eventually, she died 3rd weeks after delivery.

Krukenberg tumor of the ovary is a rare metastatic tumor in young women. The starting point is gastrointestinal, most commonly the stomach. The pathophysiology is unclear. The diagnosis is often delayed. The treatment is essentially surgical, and the prognosis is so poor.

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