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Case Report

An extremely rare aggressive neoplasm choriocarcinoma of ovary: a case report

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ABSTRACT

Choriocarcinoma of ovary is an extremely rare neoplasm. Based on its origin it is gestational and non-gestational. Gestational ovarian choriocarcinoma can arise from an ectopic pregnancy or present as a metastasis from a uterine or tubal choriocarcinoma. Its incidence is 1 in 369 million pregnancies whereas non-gestational ovarian choriocarcinoma originates from germ cells and its incidence is<0.6% of ovarian germ cell neoplasm. A case report of a 26-year-old female came to our hospital with complain of pain in her abdomen with an abdominal mass for 20 days with a history of D&C 1 month back for early pregnancy of 8 weeks, here we investigated and diagnosed her as a neoplastic ovarian mass. Then the patient was taken for exploratory laprotomy with TAH with retroperitoneal mass removal with right ovarian mass removal with sigmoidectomy with colostomy with mesenteric LN sampling. Ovarian choriocarcinoma is difficult to diagnose due to its nonspecific presentation. It is commonly diagnosed after surgical management of abdominal mass. The definitive diagnosis can only be confirmed after molecular genetic analysis. Gestational choriocarcinoma is extremely rare aggressive neoplasm with metastatic transformation having poor prognosis.

Keywords: Choriocarcinoma, Neoplasm, Pregnancy

INTRODUCTION

Gestational choriocarcinoma is a malignant neoplasm that belongs to a group called gestational trophoblastic disease. WHO classified gestational trophoblastic disease into benign and malignant. Benign is divided into complete mole and partial mole. Malignant is divide into four type invasive mole, choriocarcinoma, placental trophoblastic tumor, and epithelial trophoblastic tumor.[1,2]

Choriocarcinoma of ovary is an extremely rare neoplasm. Based on its origin it is gestational and non-gestational. Gestational ovarian choriocarcinoma can arise from an ectopic pregnancy or present as a metastasis from a uterine or tubal choriocarcinoma, its incidence is 1 in 369 million pregnancies whereas non-gestational ovarian choriocarcinoma originates from germ cells and its incidence is <0.6% of ovarian germ cell neoplasm.[1]

Choriocarcinomas are extremely rare and can present with very aggressive clinical course; hence, timely diagnosis is very difficult. The diagnosis of gestational choriocarcinoma is often incidental on histopathological examination after laparotomy in suspected ectopic pregnancies.[4,5]

Non gestational choriocarcinoma is often not considered in the initial differential diagnosis of an adnexal mass. However, obtaining a detailed history can help direct the clinician to correctly identify cases. The single most important part of the patient's history to differentiate between non gestational choriocarcinoma and gestational choriocarcinoma is a history of previous pregnancy. If

correctly diagnosed and treated there is still the possibility for favourable outcomes.

Here, we presented a case report of a gestational ovarian choriocarcinoma following a pregnancy and discuss the diagnosis and treatment.

CASE REPORT

A 26-year female came to CIMS with a complain of pain in the abdomen with an abdominal mass since 20 days with a history of D&C 1 month back in a private hospital for early pregnancy of 8 weeks. Her symptoms increase despite receiving treatment from the private hospital. Then she came to our hospital, here patient was admitted and managed accordingly.

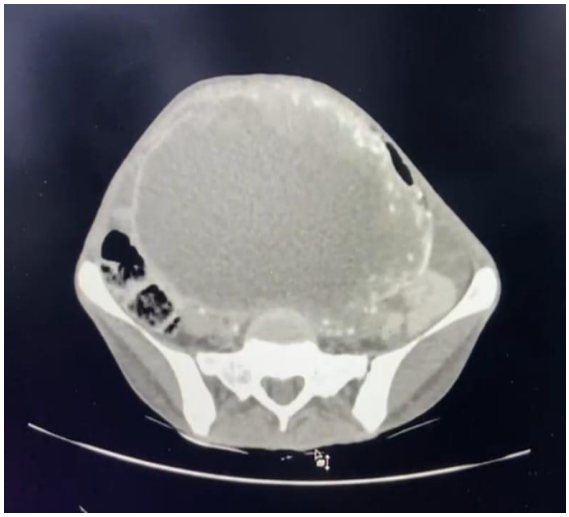

Figure 1: Large right ovarian neoplastic lesion with metastatic lymphadenopathy.

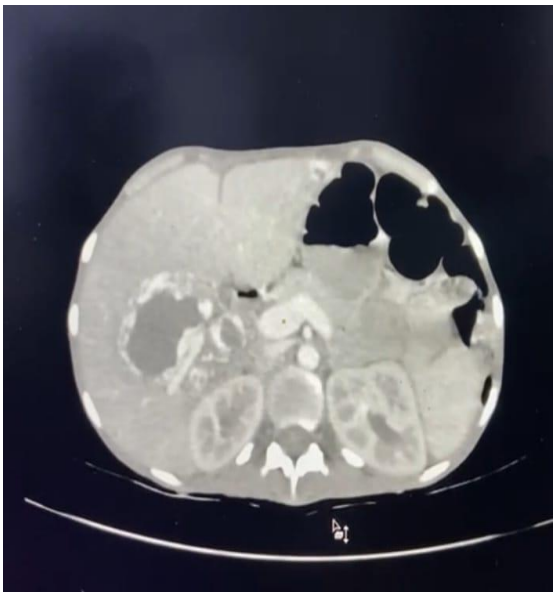

Figure 2: Multiple liver metastasis.

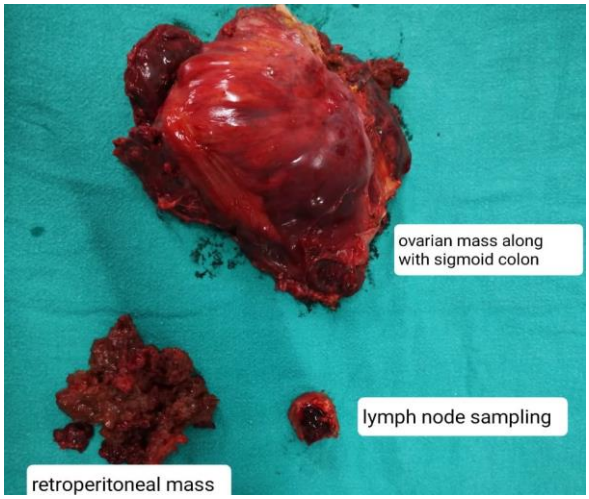

Figure 3: Ovarian mass along with sigmoid colon with retroperitoneum mass with LN sampling.

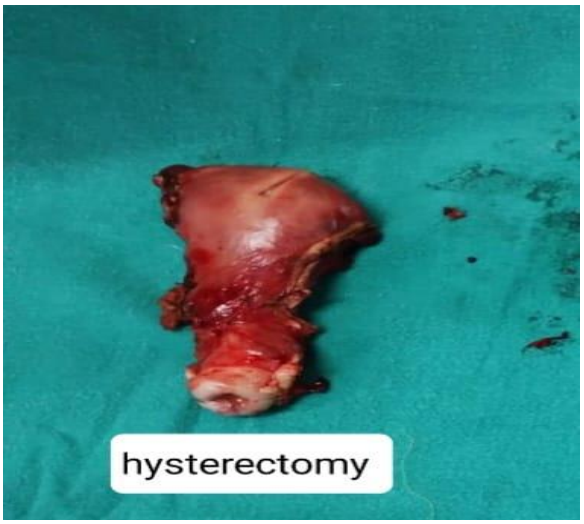

Figure 4: Hysterectomy sample.

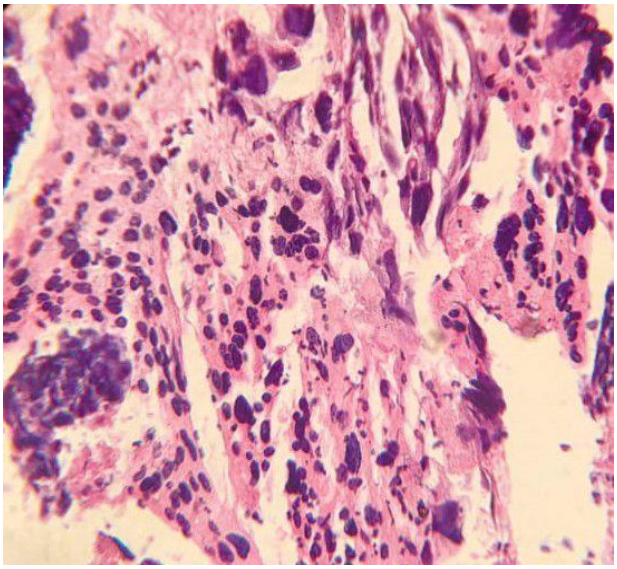

Figure 5: Trophoblastic cells.

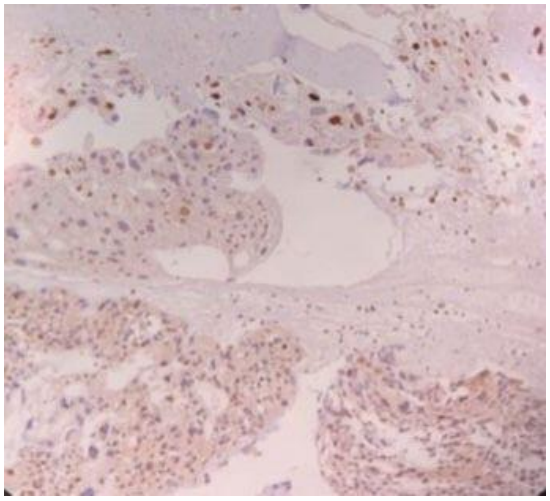

Figure 6: Cells positive for beta hCG.

Clinical examination

She was P2L2A1, her general condition was very poor, looking cachexic, BP-100/70 mmHg, pulse-106 /min, Pallar-+++, P/A-a 25×15 cm mass of oval shape, hard in consistency, irregular margin, non-mobile, fixed with the underline structure which was corresponding up to 24 weeks gestational age.

The tumor markers found was CA125-26 U/MI, beta hCG-35000 mlU/ml, LDH-750 IU/l.

Radiological examination

In the CECT abdomen and pelvis, there was a large 21×19 cm peripherally enhancing solid cystic, with multiple liver metastases s/o neoplastic lesion of ovary stage-T3c/N1/M1, FIGO-stage 4.

Table 1: Differences in gestational and non-gestational choriocarcinoma.

Characteristics	Gestational type	Non-gestational type
Age	Reproductive period	Under 20
History of normal, molar, or ectopic pregnancy or miscarriage	Yes	No
Histology	Dimorphic cells	Elements of other germ cell tumors are significant for mixed-type
Corpus luteum	Yes	No
Genome	Totally or partially different from the patient	Identical to the patient
Serum β-HCG	Higher	Lower
Prognosis	Poor	Worse

Intraoperative

There was a large 26×23 cm right ovarian solid cystic mass lesion with infiltration into uterus, retroperitoneum, sigmoid colon with lymph node metastasis and multiple liver mets.

Exploratory laparotomy with TAH with right ovarian mass removal with sigmoid colon resection with colostomy retroperitoneal mass removal with LN sampling was done.

Histopathological IHC

Multiple section studied, showed biphasic growth with group of cytotrophoblast and syncytiotrophoblast cells and multiple large irregular hyperchromatic nuclei and large atypical vesicular nuclei with clumped chromatic and prominent nuclei, were suggestive of metastatic gestational trophoblastic neoplasm.

Immunohistochemical test was positive for beta hCG.

Post operative period was uneventful. Stoma made was functioning at 3rd post-operative day then started oral diet after that patient was discharged on 16th post-operative day and advised follow up after 7 days to start chemotherapy.

DISCUSSION

Gestational ovarian choriocarcinomas are rare ovarian tumors. It is very difficult to diagnose gestational ovarian choriocarcinoma preoperatively and even more difficult among patients in the reproductive age as it mimics other more common diseases such as ectopic pregnancy and molar gestation.[4,5]

Gestational and non-gestational choriocarcinoma appear similar in histopathologic examination. However molecular genetic analysis is reliable to identify pure ovarian choriocarcinoma. Analysis of highly specific DNA polymorphic loci in the human genome, are used to detect paternal alleles of tumor. A tumor with paternal DNA element is gestational while the presence of only the maternal genome confirms non-gestational tumor.[6]

Management of gestational choriocarcinoma is chemotherapy with or without surgery. Surgical options include removal of ovarian mass and hysterectomy and removal pelvic tumor mass and LN dissection.

Chemotherapy includes single-agent therapy such as methotrexate or actinomycin-D, or multidrug regimes such as EMACO (E. etoposide, M. methotrexate, AC. actinomycin-D, O. oncovin).[6,7]

According to the previous reports, it seems that pure ovarian choriocarcinoma responds well to the combination of surgical ablation and post-operative chemotherapy.[7]

In the current case, the treatment included TAH with Right ovarian mass removal with sigmoid colon resection with colostomy retroperitoneal mass removal with LN sampling followed by plan for post-operative chemotherapy. gestational ovarian choriocarcinoma has been found to have a worse prognosis and requires more aggressive treatment include surgery and chemotherapy. Gestational choriocarcinoma usually responds well to methotrexate-based chemotherapy.[7]

CONCLUSION

Ovarian choriocarcinoma is difficult to diagnose due to its nonspecific presentation. It is commonly diagnosed after surgical management of abdominal mass. As in our case patient had a history of abortion, with high serum beta HCG level, histopathological findings, and immune-histochemistry positive for beta HCG, supported the diagnosis of Gestational choriocarcinoma of the ovary.

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