Rare disease

Ectopic tubal choriocarcinoma: a rarity

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Summary

Herein, we present a case of tubal choriocarcinoma which was diagnosed initially as chronic ectopic pregnancy. During laparotomy we noticed a haemorrhagic friable mass in the left flank, adherent to the bowel. Left-sided salpingoophorectomy was performed. Serum β HCG (human chorionic gonadotropin) levels performed in the postoperative period were elevated. Histopathology demonstrated choriocarcinoma. She was given six cycles of chemotherapy (etoposide, methotrexate, actinomycin D-cyclophosphamide, vincristine/ oncovine (EMA-CO) regime) and monitored by serial β HCG estimation. This case highlights the importance of undertaking histopathological examination of the tubal tissue in every patient who presents with ectopic pregnancy. This important diagnostic test prevents the potential of missing this rare and highly malignant disease which is otherwise curable in most instances.

BACKGROUND

Choriocarcinoma is extremely aggressive form of gestational trophoblastic disease. It occurs due to neoplastic changes in the chorionic villi epithelium. The most common site of origin is uterus but can rarely be associated with ectopic pregnancy. The reported incidence of ectopic tubal choriocarcinoma is approximately 1.5/1 000 000 births.¹ It is not considered as a differential diagnosis in most of the cases.

CASE PRESENTATION

A 30-year-old patient Gravida 4 (P₃₊₁) was admitted in the emergency room with intermittent dull aching pain in lower abdomen, fever and generalised weakness for 1 month following induced abortion at 2.5 months of gestation at a private hospital. No records of induced abortion were available. No ultrasound was performed prior to the termination of pregnancy. There was no history of vaginal bleeding. On examination, patient was pale, her vital functions were stable, blood pressure (BP) was 110/60 mm Hg, and pulse rate was 130/min. Abdominal examination revealed a firm and tender suprapubic mass of approximately 14 weeks size gravid uterus. On per vaginum examination exact uterine size could not be ascertained. A firm, tender mass of approximately 8×10 cm size was felt through the posterior fornix. All fornices were tender.

INVESTIGATIONS

Urine pregnancy test was weakly positive. Haemoglobin was 6 g%. white blood cell (WBC) count was 6000/mm³. Liver function and kidney function tests were normal. Transvaginal ultrasonography (USG), showed normal uterus with picture suggestive of pelvic haematocele. The ultrasound picture was not very informative. CT scan could not be performed due to financial constraints. We performed another ultrasound and suspected chronic ruptured ectopic pregnancy. Serum β HCG was sent.

DIFFERENTIAL DIAGNOSIS

A woman in reproductive age group presenting with pain in abdomen, fever, pallor and tender lump in abdomen following induced abortion raises the suspicion of uterine perforation with broad ligament haematoma or pelvic inflammatory disease with tubo-ovarian mass. Chronic ectopic pregnancy will also present with similar features. In the present case, urine pregnancy test was weakly positive so chronic ectopic pregnancy was kept as the first possibility.

TREATMENT

Having suspected a chronic ectopic pregnancy with haemoperitoneum, the patient was planned for diagnostic laparoscopy. Preoperatively, the uterus was normal. The patient refused laparoscopy due to financial reasons and was therefore taken up for laparotomy. Blood clot of approximately 1000 cc was seen. There was a friable haemorrhagic mass of approximately 14×16 cm on the left side extending till the pouch of Douglas. The mass was adherent to the small bowel and mesentery. The mass was identified as left tubal chronic ectopic pregnancy. The left ovary was normal in appearance but was adherent to the mass. The right-sided ovary was cystic. The mass was separated from the bowel with great difficulty resulting in severe haemorrhage and resulting in left-sided salpingoophorectomy. Four units of blood had to be transfused. The mass was sent for histopathological examination post-operative period was uneventful. To our surprise, the serum β human chorionic gonadotropin (HCG) levels which became available to us postoperatively were extremely high (S. β HCG—3 26 100 mIU/ml). The histopathology report which showed tubal choriocarcinoma (figure 1), confirmed the diagnosis.

Having made the diagnosis of tubal gestational trophoblastic neoplasia, scoring of the patient was done according to the International Federation of Gynecology and Obstetrics (FIGO) prognostic score.² The patient was categorised into FIGO stage II with prognostic score of 8. Scoring was done as follows: age—score 0 (30 years of age), antecedent pregnancy

Figure 1 Section shows areas of haemorrhage, fibrinoid necrosis, few degenerated villi and intermediate trophoblastic cells. H&E $\times 40$.

—score 1 (abortion), interval from index pregnancy—score 2 (patient had an abortion 12 months back), pretreatment β HCG value—score 4 ($>10^5$), largest tumour size—score 1 (5 cm), site of metastasis—score 0 (none) and previous failed chemotherapy—score 0 (none).

Her β HCG titres dropped to 1 00 000 mIU/ml a week after the procedure. The patient was judged as being at high risk and treated with combination chemotherapy (etoposide, methotrexate, actinomycin D-cyclophosphamide, vincristine/ovine (EMA CO) regimen—etoposide (100 mg/m^2), actinomycin D (0.5 mg) and methotrexate (100 mg/m^2), folinic acid rescue (15 mg intramuscular every 12 h for four doses beginning 24 h after starting methotrexate)—on day 1 and 2 and vincristin (1 mg/m^2) and cyclophosphamide (600 mg/m^2)—on day 8). After first cycle of chemotherapy β HCG level fell to 44 000 mIU/ml. After the third cycle of combination chemotherapy β HCG level was 343 mIU/ml. The patient underwent six cycles of chemotherapy with good response. β HCG levels gradually decreased and became negative (5 mIU/ml) after six cycles of chemotherapy. Consolidation therapy could not be given as the patient developed toxicity in the form of severe glossitis, stomatitis and jaundice during the sixth cycle of chemotherapy.

OUTCOME AND FOLLOW-UP

During follow-up, the patient was asymptomatic and had normal periods. The follow-up was performed using β HCG testing on a weekly basis during the first month and then twice a month. The ultrasound was performed during the follow-up visit to see for any recurrence or residual mass serial β HCG levels and ultrasound during follow-up were within normal parameters. The patient was advised contraception and asked to avoid pregnancy for a year. Follow-up at 2 years revealed no evidence of recurrence. Chest x-ray was conducted twice at 1-year interval to exclude lung metastasis. Neurological assessment was done clinically as the patient could not afford CT scan. The patient is still being followed up at regular intervals.

DISCUSSION

Choriocarcinoma usually occurs within the body of the uterus during reproductive years. On rare occasions they

may occur in the tube, cervix,³ horn of the uterus, greater omentum and rectouterine pouch.⁴ Ectopic tubal choriocarcinoma is rare but aggressive entity. The incidence is 0.8% of all the gestational trophoblastic disease.⁵ Patients with tubal gestational trophoblastic disease cannot be clinically differentiated from tubal ectopic pregnancy. Diagnostic errors occur because of its rarity, its presentation mimicking a routine tubal pregnancy, only a small mass available for histology and frequent lack of discriminating immunohistochemistry.⁶ This often leads to delay in therapy and results in increased morbidity.⁷ Tubal choriocarcinoma may develop either by malignant transformation of a tubal pregnancy or can arise de novo without an ectopic pregnancy.⁸ Of the reported cases of tubal choriocarcinoma, majority present as ectopic pregnancy.^{9–12} Few cases may present as tubal choriocarcinoma occurring following in vitro fertilisation,¹³ choriocarcinoma occurring in postmenopausal women¹⁴ and tubal choriocarcinoma coexistent with viable intrauterine pregnancy.¹⁵

MRI, endovaginal ultrasound and colour flow Doppler play an important role in the diagnosis of ectopic gestational choriocarcinoma.¹⁶ Recently a report by Nakayama *et al*¹⁷ demonstrated the usefulness of a combination of P57K2 immunostaining and DNA polymorphism analysis in determining the origin of tubal choriocarcinoma (gestational or non-gestational).

Management includes complete surgical resection combined with subsequent adjuvant chemotherapy and lifelong β HCG monitoring as it is still unclear when to stop monitoring.²

Histopathology is the gold standard for diagnosing choriocarcinoma. The distinguishing histological features of choriocarcinoma are columns of trophoblastic cells, commonly separated by coagulated blood that invades muscular tissue.¹⁸ Kagel *et al*¹⁹ reported a case in which the presence of choriocarcinoma in a tubal specimen was overlooked and the patient presented later with a mediastinal mass that had to be surgically resected.

This case highlights the importance of performing an ultrasound before induction of abortion in early pregnancy to rule out ectopic mass. It also emphasises the significance of establishing accurate diagnosis by performing histopathology of the tubal specimen in all the patients who present with tubal pregnancy. Doing so would safeguard against missing this extremely rare, highly aggressive, but readily curable malignancy.

Learning points

- An ultrasound should be performed prior to induction of abortion to rule out ectopic mass.
- Histopathological examination of the tubal tissue should be requested in all cases presenting with tubal pregnancy.
- Follow-up of all patients with serum β HCG (human chorionic gonadotropin) should be done when the patient with tubal pregnancy are kept on conservative management or if the histopathology demonstrates choriocarcinoma.
- Lifelong follow-up with β HCG should be done in all patients with choriocarcinoma (uterine or tubal) to detect recurrence.

Competing interests None.

Patient consent Obtained.

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