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CASE REPORT

Primary Choriocarcinoma of the Ovary- A Case Report

MISHRA S K*, CRASTA J A**

ABSTRACT

Primary choriocarcinoma of ovary is rare. It could be gestational or nongestational in origin. The distinction between the two is difficult, but necessary, as the nongestational type has a bad prognosis. We present a case of pure ovarian choriocarcinoma occurring in the reproductive age group, with no history of pregnancy.

Key Words: Choriocarcinoma, ovary

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Introduction

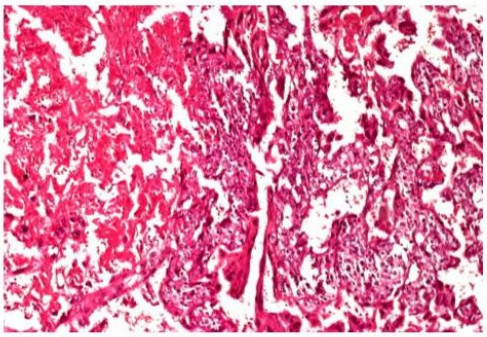
Choriocarcinoma is a rapidly invasive, widely metastatic, human chorionic gonadotropin (hCG)-producing neoplasm, which usually has an intra-uterine location and a gestational [1]. Primary extrauterine choriocarcinoma is very rare, found mostly in the genital tract, in patients with coincident or antecedent pregnancy. Primary non-gestational ovarian choriocacarcinomas (NGCOs) are usually seen with other germ cell tumours[2]. Pure primary ovarian nongestational choriocarcinomas are exceedingly rare, and we herein report such a case.

Case Report

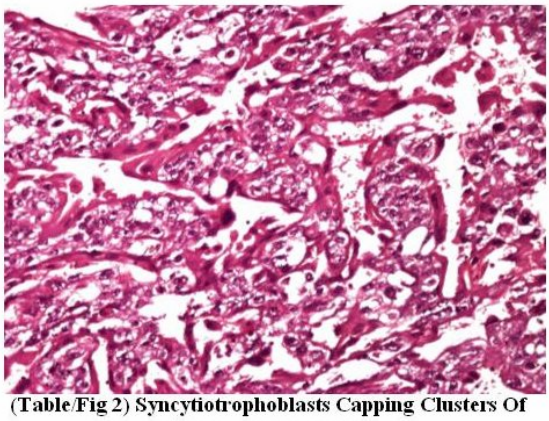
A 25-year-old female presented to our institution with complaints of amenorrhoea since 5 months, and pain in the lower abdomen, with low-grade fever and vomiting of one-month duration. She had three normal deliveries previously, with the last one two years back. There was no history of molar pregnancy. On examination, the patient was febrile and anaemic. Abdominal examination revealed a diffuse soft non-tender mass of 22 weeks size.

The investigations revealed a haemoglobin level of 7.4 gm/dl. The urine tested negative for β-hCG. Ultrasound examination showed an abdomino-pelvic mass measuring 20X18 cm, with mixed echogenicity. The uterus was normal in size, shape and echo texture. There was no fluid in the POD. The serum β-hCG was more than 10 lakhs IU/ml. On exploratory laparotomy, the right ovary was found to be replaced by a haemorrhagic lobulated mass measuring 15X15 cm that was friable and adherent to the sigmoid colon and the small intestine. The uterus and the fallopian tube were unremarkable. Total

abdominal hysterectomy with bilateral salphingoopherectomy with omental biopsy was performed. In the immediate post operative period, serum β HCG was 80000 IU/ml. Histological examination of the right ovarian mass revealed extensive haemorrhage, necrosis and clusters of malignant syncytiotrophoblasts and cytotrophoblasts [Fig 1,2]. No other germ cell element was detected. Omental biopsy showed no metastases. The patient was put on chemotherapy, but after one cycle, the patient was lost to follow up.



(Table/Fig 1) Hemorrhagic Tumor Showing An Intimate Mixture Of Syncytiotrophoblasts And Cytotrophoblasts (4X)



(Table/Fig 2) Syncytiotrophoblasts Capping Clusters Of Cytotrophoblasts (40X)

Discussion

Most ovarian choriocarcinomas are gestational in origin, and usually are metastases from uterine or tubal choriocarcinomas [2]. Primary ovarian choriocarcinomas are rare aggressive tumours, and comprise only 1% of all ovarian tumours [3]. They can present in the pure form, or may occur in association with other germ cell tumours like teratoma, dysgerminoma or yolk sac tumour [4]. Pure ovarian choriocarcinoma can be of gestational or non-gestational type.

Gestational ovarian choriocarcinomas occur in women of reproductive age, and are often associated with normal or molar pregnancies [1]. Our patient was in the reproductive age, who underwent the last delivery 2 years ago and presented with pain in the abdomen and with an abdomino-pelvic mass, with history of amenorrhoea similar to the trend seen in earlier reports. Though the patient presented with a history of amenorrhoea of 20 weeks duration, thorough sampling of the endometrium, fallopian tube and the ovary failed to reveal any evidence of pregnancy or hydatidiform mole. Neither did the tumour reveal evidence of any other germ cell malignancy to determine the cell of origin. For an ovarian choriocarcinoma, to be unequivocally derived from germ cells, should be diagnosed in a non-pregnant women or prepubertal girl [5]. With no evidence of ovarian, tubal or uterine pregnancy, it is difficult to establish our case as ovarian gestational choriocarcinoma or a metastasis from a uterine or tubal choriocarcinoma that has regressed.

It is important to distinguish between gestational and non-gestational choriocarcinoma, since nongestational choriocarcinomas have been found to be resistant to single agent chemotherapy, have a worse prognosis, and therefore require aggressive combination chemotherapy [6]. The reasons for poorer prognosis have not been determined.

The diagnostic criteria used to diagnose non-gestational choriocarcinoma which were first described by Saito et al, are as follows: 1. Absence of disease in the uterine cavity 2. Pathological confirmation of disease 3. Exclusion of molar pregnancy 4. Exclusion of coexistence of intrauterine pregnancy[7]. According to these criteria, our case could be diagnosed as nongestational choriocarcinoma, but Jacobs et al state that a non-gestational type of ovarian choriocarcinoma can be diagnosed with certainty only in a patient who is sexually immature, unable to conceive, or has never had sexual intercourse[8]. With such stringent

criteria, our case cannot be defined as non-gestational choriocarcinoma.

Distinction of non-gestational choriocarcinoma from gestational choriocarcinoma is impossible on histomorphology unless an evidence of pregnancy or other germ cell neoplasms are encountered. There are no ultra structural or immunohistochemical features unique to either. DNA analysis for identification of paternal sequences establishes the diagnosis of gestational or non-gestational choriocarcinoma[2],[9],[10].DNA polymorphism analyses using two or three appropriate VNTR loci from the tumour and the patient reveal that the detectable alleles of VNTR are same. This indicates that the genetic background is identical between the patient and the tumour, thereby establishing the diagnosis of non-gestational choriocarcinoma. Only few cases of nongestational choriocarcinoma are diagnosed with genetic analyses to date in the literature. In the absence of such a facility, our case was diagnosed as non-gestational type of primary ovarian choriocarcinoma.

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