

Case Report

## Pure Choriocarcinoma of Ovary - A Rare Case Report

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### ABSTRACT

Pure choriocarcinoma of the ovary is a rare and aggressive neoplasm. It is important to distinguish non gestational choriocarcinoma from gestational choriocarcinoma, since non gestational pure ovarian choriocarcinoma is a high malignant tumor resistant to chemotherapy and has a worse prognosis.

**Keywords:** Choriocarcinoma, Ovary, Non gestational, Prognosis.

### INTRODUCTION

Germ cell tumours of ovary accounts for twenty percent of all ovarian tumours. [1] Choriocarcinoma accounts for less than 1 percent of malignant ovarian germ cell tumours. [1,2] However choriocarcinomatous elements are seen in 20 percent of mixed germ cell tumours. Choriocarcinoma of ovary can be gestational or non gestational in origin. [3] Gestational choriocarcinoma of ovary can originate from ovarian pregnancy or from occult gestational choriocarcinoma with ovarian metastasis. Non gestational choriocarcinoma of ovary is of germ cell origin and it can present as pure choriocarcinoma or as a component of mixed germ cell tumour.

### CASE REPORT

A 26 old female, P<sub>2</sub>L<sub>2</sub>, admitted with complaints of abdominal pain for 3 months duration, bleeding per vaginum for 15 days. No past history of abortion or molar pregnancy. Ultrasonogram showed the possibility of ovarian mass. MRI- Left ovarian malignant tumour. AFP- 4 ng/ml.

CEA- 0.797ng/ml. β-HCG- 16.9miu/ml. CA-22units/ml. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was done in the gynaecology department and the specimen sent to us for histopathological examination.

**Gross:** Received the specimen of uterus with cervix, both side tubes, right ovary and left ovarian tumour. Uterus with cervix measures 9.5 x 6 x 5 cm. Cut surface- unremarkable. Right ovary and both tubes were grossly normal. Left ovarian mass measures 18x14x8cm. External surface- nodular. Cut surface- Grey brown, necrotic and hemorrhagic. Omentum received measures 8x3cm.c/s – unremarkable.

**Microscopy:** Multiple sections from the large ovarian mass show intimate mixture of cytotrophoblasts and syncytiotrophoblasts along with intermediate trophoblastic cells with extensive areas of haemorrhage and necrosis. Cytotrophoblastic cells are polygonal cells with amphophilic cytoplasm and single nucleus.

Syncytiotrophoblastic cells are multinucleated with cytoplasmic vacuolation. The neoplastic elements are seen in the wall of many blood filled

dilated sinusoids. Vascular invasion is prominent in many foci. Sections from the uterus, fallopian tubes and right side ovary are normal with no significant pathology.

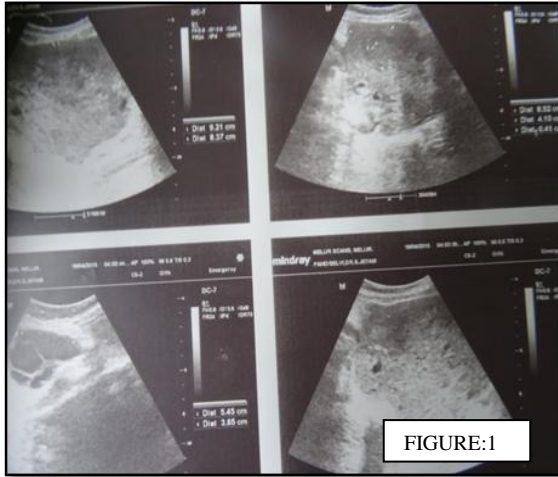


FIGURE:1

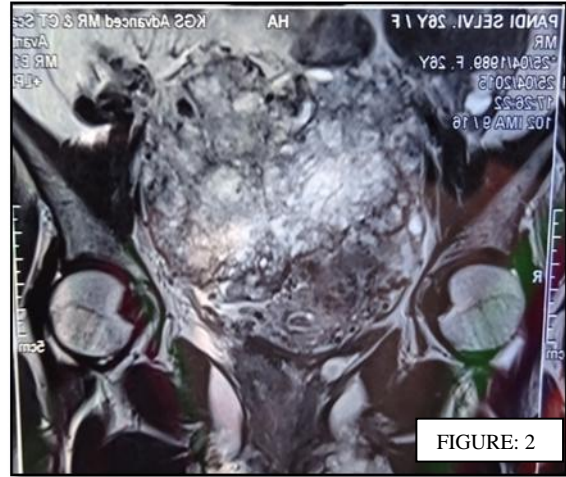


FIGURE: 2

**Figure- 1-** USG: shows a mixed echogenic mass measuring 12 x 9.5 cm, present in the Lt adnexal region, with solid areas and increased vascularity

**Figure- 2-** MRI: a huge heterogenous mass in the Lt adnexa, abutting the uterus and tethered to the parametrium – possibility of malignant ovarian tumor.



FIGURE: 3

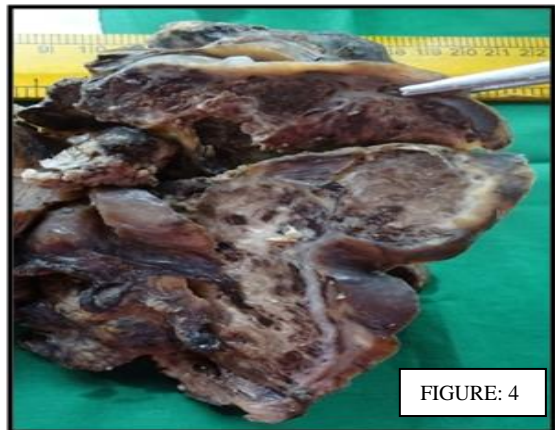


FIGURE: 4

**Figure- 3 -**Uterus with cervix with attached small right ovary and large left ovarian mass.

**Figure- 4-** C/S of large ovarian mass – variegated with greyish white solid, cystic areas, areas of hemorrhage and necrosis.

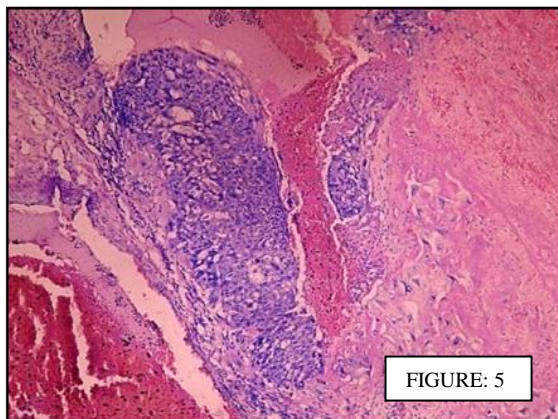


FIGURE: 5

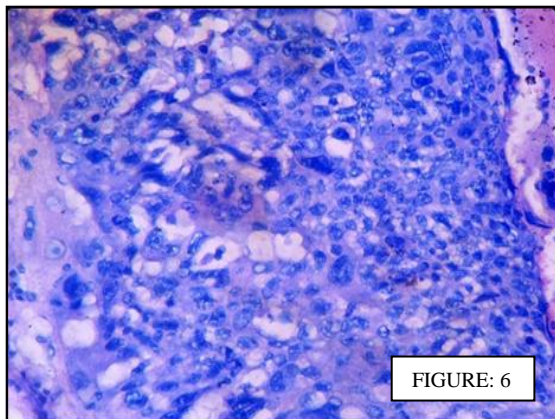


FIGURE: 6

**Figure- 5 –** Sheets of cytotrophoblastic and syncytiotrophoblastic cells with extensive areas of necrosis and hemorrhage. (H&E- 10x)

**Figure- 6-** Sheet of syncytiotrophoblasts with large nuclei, cytoplasmic vacuolation and multinucleated giant cells (H&E- 40x)

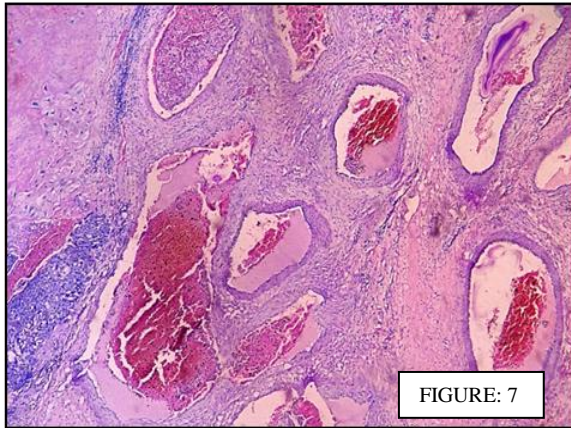


FIGURE: 7

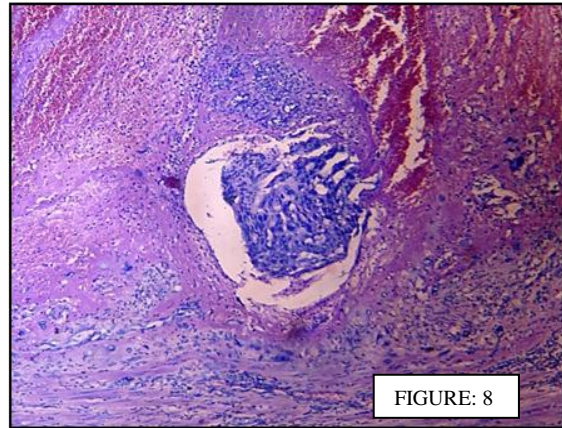


FIGURE: 8

Figure: 7 – Show multiple vascular spaces filled with blood (H&E- 10x)

Figure: 8 – Show vascular invasion of trophoblastic cells (H&E- 10x)

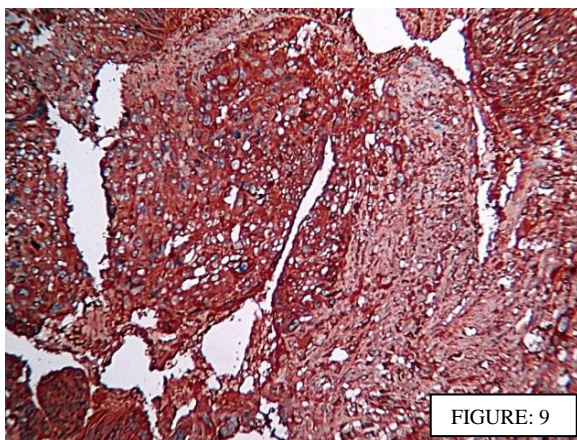


FIGURE: 9

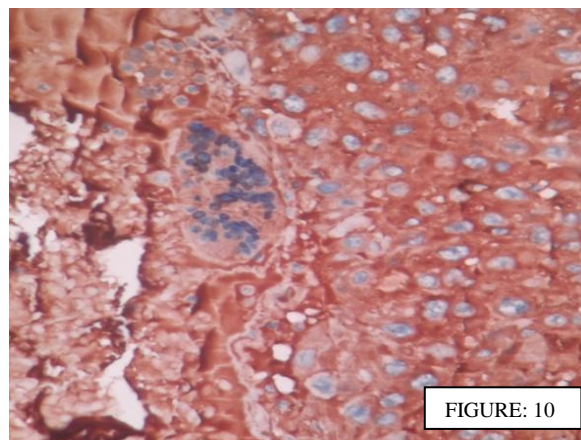


FIGURE: 10

Figure: 9 & 10 – Immunohistochemistry show syncytiotrophoblastic cells with strong positivity for  $\beta$ -HCG (10x and 40x- with giant cell)

## DISCUSSION

Pure Choriocarcinoma that develop before puberty are usually of germ cell origin and they are confined to females less than 20 years of age. [1] If it occurs in women of reproductive age group it has to be differentiated from choriocarcinoma arising from ovarian pregnancy or occult gestational choriocarcinoma with ovarian metastasis. Non gestational choriocarcinoma of ovary is a rare malignant tumour differentiating into extraembryonal structures of both cytotrophoblast and syncytiotrophoblast.

Clinically it presents as abdominal mass or abdominal pain. In prepubertal age group, precocious isosexual pseudo puberty is the usual presenting feature and in the reproductive age group menstrual irregularities, amenorrhea and breast enlargement are the presenting features. [4]

Serum  $\beta$ -HCG levels are elevated and the values are usually lower in non gestational choriocarcinoma than gestational choriocarcinoma. [3,5]

Grossly pure choriocarcinomas are typically solid haemorrhagic and friable with capsular adhesion to adjacent structures. Microscopically non gestational choriocarcinoma is indistinguishable from gestational choriocarcinoma. Ultrastructural and immunohistochemical findings are also not helpful to differentiate these two. Gestational and non gestational choriocarcinoma of ovary can be differentiated by identifying the paternal sequences by DNA analysis. [6-8]

Non gestational choriocarcinoma of ovary has to be differentiated from other germ cell tumours containing syncytiotrophoblastic cells, such as embryonal carcinoma, yolk sac tumour,

and dysgerminoma. Secondly it has to be differentiated from primary or metastatic ovarian gestational choriocarcinoma and from undifferentiated carcinoma in elderly women exhibiting choriocarcinomatous differentiation.

The diagnostic criteria for non gestational choriocarcinoma was first described by Saito et al [9] in 1963 which include,

1. Absence of disease in the uterine cavity
2. Pathological confirmation of the disease
3. Exclusion of molar pregnancy
4. Exclusion of coexistence of intrauterine pregnancy.

Based on these criteria, the present case was diagnosed as non gestational choriocarcinoma.

Choriocarcinoma involves the adjacent structures and produce lymphatic and haematogenous metastasis. Pulmonary metastasis is common. Brain, eye and vagina also get involved by metastatic disease.

Current treatment consists of cytoreductive surgery and combination chemotherapy with platinum based regimens. Pure choriocarcinoma of ovary are less responsive to chemotherapy than gestational choriocarcinoma and have worse prognosis. [7,8] Prognosis correlates with the size of tumour, site and number of metastasis. Serum  $\beta$ -HCG level monitoring is useful to evaluate the treatment response.

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