ORIGINAL RESEARCH PAPER

Gynaecology

KEY WORDS: Mixed Germ Cell Tumor, Dysgerminoma, Yolk Sac Tumor, Embryonal Carcinoma, Chemotherapy.

A RARE CASE OF MIXED GERM CELL TUMOUR IN PREVIOUS PREGNANCY AND SUCCESSFUL OUT COME OF SUBSEQUENT PREGNANCY FOLLOWING EFFECTIVE TREATMENT

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ABSTRACT

Mixed germ cell tumours of the ovary are malignant neoplasms of the ovary comprising of two or more types of germ cell components. Most of the malignant mixed germ cell tumours consists of dysgerminoma accompanied by endodermal sinus tumours, immature teratoma or choriocarcinoma. There are only few case reports of mixed germ cell tumours with different combinations of malignant components. Here we report a very rare case of mixed germ cell tumor in pregnancy which was incidentally diagnosed during emergency cesarean section and then treated and followed up to have safe mother and child in future pregnancy. This is a very good evidence to demonstrate the effectiveness of platinum based chemotherapy ,which is regarded as the treatment of choice and its advantage in preservation of fertility.

INTRODUCTION:

Germ cell tumours derived from the primordial germ cell of ovary. Almost 70% of ovarian tumours of first two decades are germ cell in origin. About one third are malignant. In contrast to the epithelial ovarian tumours,germ cell tumours grow rapidly.Malignant germ cell tumours are classified as dysgerminoma, endodermal sinus tumour, embryonal tumour, polyembryoma, choriocarcinoma, teratoma, mixed forms. Mixed germcell malignancies of the ovary contain two or more of these elements.Malignant germcell tumour can arise from extragonadal sites such as mediastinum and retroperitoneum. Pure germinomas do not secrete tumour markers . Embryonal carcinoma synthesizes both hCG (human Chorionic gonadotrophin) and AFP(alpha fetopr otein). Placental alkaline phosphatase (PLAP) and lactate dehydrogenase(LDH) are produced by upto 95% of dysgerminomas.Endodermal sinus tumour secretes alpha fetoprotein(AFP) and the choriocarcinoma secretes human chorionic gonadotrophin(hCG).The presence of these circulating hormones can be clinically useful in the diagnosis of a pelvic mass and in monitoring the course of a patient after surgery.Because germ cell tumours tend to occur in young patients ,they may coexist with pregnancy.

CASE REPORT:

We report a very rare case of mixed germ cell tumor in pregnancy which was incidentally diagnosed during emergency cesarean section and then treated and followed up to have safe mother and child in future pregnancy. A 22 year old Mrs. Siva kumari was referred from Markapur private hospital in view of fever and pregnancy with adnexal mass presented as G2A1 with 38 weeks of gestation .Necessary investigations were done and emergency cesarean section was done in view of fetal distress and delivered a male child with weight 3kg and a large ovarian mass of size about 19x15x7 cms was found on left side (figure 1) and left ovariotomy was done and sent for histopathological examination . Right ovary was normal. Baby expired after 2days of admission in NICU. Intra Operative findings includes Gross: 19×15×7cm ,capsulated solid , lobulated , with focal cystic areas .Tumor markers include serum AFP: 1.30 ng/ml, hCG: 4.9Miu, LDH: 455IU/L (markedly elevated) suggestive of dysgerminoma. Histopathology report of left ovarian mass shows large aggregates of uniform cells,trabeculae of tumor cells surrounded by connective tissue stroma containing lymphocytes. Characteristic tumour cell appearance centrally placed nuclei with delicate cytoplasmic memb ranes, hyperchromatism, prominent nucleoli.Other features : microcysts lined with flat cells with pleomorphic &hyper chromatic nuclei , occasional hyalinebodies (figure2,3) and is in favour of dysgerminoma , yolk sac tumor and embryonal carcinoma (figure 4). Patient was referred to radiotherapy for adjuvant chemotherapy and was advised 3cycles of BEP(Bleomycin,Etoposide, Cisplatin) in view of mixed germ cell tumour , FIGO stage 1A.Contraception and necessary follow up was advised.

Inspite of advice regarding contraception, as she was anxious to have a child, she conceived spontaneously after com pletion of chemotherapy for 6 months and patient presented to outpatient department at 16wks of gestation. TIFFA scan done .Foetal anomalies were ruled out. Pregnancy continued with necessary investigations and treatment. Elective caesarean section was done at 39 weeks gestation. A live male baby with birth weight of 3kg was delivered. Intra operative findings include right ovary and fallopian tube are normal .No recurrent or residual tumour on left side.

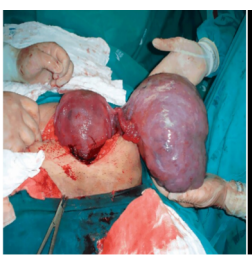

Figure 1

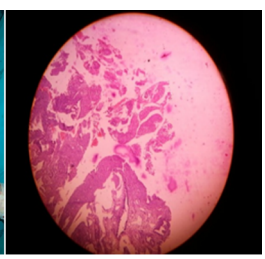

Figure 2

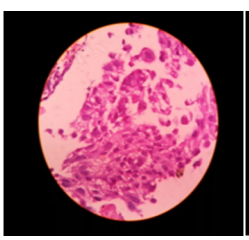

Figure 3

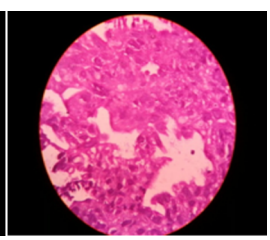

Figure 4

DISCUSSION:

A similar case of 25 yrs old primi with 39 weeks gestation with mixed germ cell tumour with combination of dysgerminoma and teratoma reported at Government Medical College ,Punjab had excellent prognosis with chemotherapy (Bleomycin,Etoposide,Cisplatin). Another case of 22 years old G2P1L1 with 20 weeks gestation with mixed germ cell tumour with combination of choriocarcinoma and embryonal carcinoma reported at KIMS Karnataka had poor prognosis. In our case she had a combination of dysgerminoma ,endod ermal sinus tumour and embryonal carcinoma with major

component of dysgerminoma which had good prognosis with BEP (Bleomycin,etoposide,cisplatin) till now and patient is under follow up.The prognosis of malignant mixed germ cell tumour depends on size of primary tumour and the relative size of its most malignant component.Stage 1A tumours less than10cms has 100% survival .Tumours composed less than one third of endodermal sinus tumor, choriocarcinoma or grade III immature teratoma have excellent prognosis.

The most common component of a mixed germ cell tumour includes dysgerminoma in 80%, endodermal sinus tumour in 70%, immature teratoma in 53%, choriocarcinoma in 20%, embryonal carcinoma in 16%.The most frequent combination includes dysgerminoma and endodermal sinus tumour. Management of mixed germ cell tumours with combination chemotherapy in pregnancy has good prognosis. When stage1A cancer is found, tumour can be removed and continue the pregnancy. In advanced disease, continuation of pregnancy depends on gestational age of the foetus. Chemotherapy can be given in same doses as in non pregnant patients in second and third trimester without apparent detriment of foetus. Prognosis is better with chemotherapy. Recurrences if any, mostly occur within one year after treatment. The serum marker, if positive initially, may become negative during chemotherapy, but this finding may reflect regression of only a particular component of the mixed lesion. Therefore for these patients a second look laparotomy may be indicated to determine the precise response to therapy if macroscopic disease was present at initiation of chemo therapy.

CONCLUSION:

The prognosis of malignant mixed germ cell tumor depends on size of primary tumor and the relative size of its most malignant component.Mixed germ cell tumour may coexist with pregnancy. When stage 1A cancer is found, tumour can be removed and continue the pregnancy. In advanced disease, continuation of pregnancy depends on gestational age of the foetus. Chemotherapy can be given in same doses as in non-pregnant patients in 2nd and 3rd trimester without apparent detriment of foetus.

CONFLICTS OF INTEREST:

There are no conflicts of interest.

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