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Case Report

YOLK SAC TUMOR OF THE OVARY DURING PREGNANCY: A CASE REPORT

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ABSTRACT
Yolk sac tumor with pregnancy is a rare neoplasm. There is a therapeutic dilemma for the treatment of pregnant patient with yolk sac tumor requiring chemotherapy. Our case was a pregnant woman with 24 weeks gestation with yolk sac tumor, removed by laparotomy. Chemotherapy was delayed till after delivery. Both mother and child are well 20 weeks after last dose of chemotherapy.

Keywords: *Yolk Sac Tumor, Ovarian Tumor, Pregnancy, Alpha Feto Protein*

INTRODUCTION
Background
Yolk sac tumor with pregnancy is a rare neoplasm. There is a therapeutic dilemma for the treatment of pregnant patient with yolk sac tumor requiring chemotherapy.

CASES
A 24 years Gravida three woman, 24 weeks of gestation presented with complaints of pain whole abdomen off and on for past 4 months. Her USG showed 23 weeks normal fetus with 15×13 cm subserosal fibroid with cystic degeneration with left sided large ovarian cyst (159×231 mm) with loculated ascites. MRI whole abdomen confirmed the USG findings. Since she was in second trimester, which is the ideal time, exploratory laparotomy was done.
Uterus was 20-22 weeks size with smooth and regular contour. Left sided adnexa was not visualised separately with ovarian mass of size 15×12 cm with irregular surface and haemorrhagic areas No abnormal lesions were seen in the peritoneal cavity or omentum. Furthermore, there was no enlargement of the pelvic or para-aortic lymphnodes. Mass was adherent so debulking surgery was done. Grossly, the tumor consisted of a mixture of cystic and solid areas.
Tissue sent for histopathology showed yolk sac tumor with no evidence of metastatic deposits in omentum. Serum alpha feto protein was >1000 IU/ ml. Chemotherapy during pregnancy was postponed due to risks of the chemotherapy to the fetus, after explaining the options and risks to the fetus to the patient and her family. Patient was kept on follow up and delivered at 35 weeks a healthy child of 2.5 Kg weight.
She then received six chemotherapy courses (cisplatin, etoposide, and bleomycin). Currently, the child is doing well and mother (20 months after last chemotherapy) on regular follow up has normal USG and AFP values.

DISCUSSION
The majority of adnexal masses detected during pregnancy are benign, commonest being functional ovarian cysts from follicles or corpora lutea and are usually resolved by the second trimester. Among persistent adnexal masses in pregnancy, dermoids are the most common, followed by benign serous or mucinous cystadenoma. Malignant ovarian neoplasms account for 2%-6% of all persistent adnexal masses diagnosed during pregnancy (Hess *et al.*, 1988; Bromley and Benacerraf, 1997). Germ cell tumors occur in the reproductive age group lead to over representation in pregnancy. However, pregnancy complicated by yolk sac tumor of the ovary is extremely rare and poses challenge due to diagnostic delay, fewer diagnostic options, and ethical issues and there is no established method of treatment.

Case Report

Diagnosis of Yolk sac tumor in pregnant women is complicated by the extremely high levels of AFP. Tumor surveillance by monitoring AFP requires accurate correction for gestational age in pregnant women. After the operation, L2 fraction of alpha-fetoprotein (AFP) depending on the affinity for Lens culinaris agglutinin (LCA) as an indicator for a maternal source of AFP AFP-L2 may be a sensitive indicator for a yolk sac tumor derived AFP, leading to an earlier detection of tumor recurrence during pregnancy (Aoki *et al.,* 2005). Most patients with yolk sac tumor need to be treated with combination chemotherapy, bleomycin etoposide, and cisplatin, BEP for at least 3 cycles after debulking surgery. If diagnosed early, pregnancy is terminated before the initiation of combination chemotherapy. However if fetal is >20 weeks, dilemma remains because of affect on fetus due to chemotherapy or the risk to the mother of disease progression if delayed chemotherapy persists (Thanaboonyawat and Benjapibal, 2008). Aviles *et al.,* (1991) reported successful and safe administration of chemotherapy in pregnancy in 43 cases. However, it is still prohibited during the first trimester of pregnancy since the high risk for abnormal fetal development (Malone *et al.,* 1986) and high rate of abortion (Zemlickis *et al.,* 1992). Although the risk of chemotherapy to the fetus cannot be assessed based on few cases, their experience have been encouraging (Motegi *et al.,* 2007). Thus three categories of strategies are described (a) receiving chemotherapy during pregnancy, (b) receiving chemotherapy after therapeutic abortion (c) receiving chemotherapy after delivery. Umezu et al demonstrated that tumor stage, ascites volume before initial surgery, and residual tumor size were prognostic factors in Yolk sac tumor. This facilitates the identification of patients who may require more intensive therapeutic strategies (Umezu *et al.,* 2008). Management is individualized for each patient.

Conclusion

Yolk sac tumor is a curable disease if diagnosed early and thus debulking surgery with subsequent chemotherapy is treatment of choice. However, therapeutic strategies for malignant tumors in the second trimester of pose dilemma. Delaying of postoperative chemotherapy may increase the recurrence but use of chemotherapy during pregnancy may harm the fetus. Histology, clinical stage of the tumor, discussion with the patient and her relatives explaining all options and their decision should be considered before management is performed.

REFERENCES

Aoki Y, Higashino M, Ishii S and Tanaka K (2005). Yolk sac tumor of the ovary during pregnancy: a case report. *Gynecologic Oncology* **99**(2) 497-9.

Aviles A, Diaz-Maqueo JC, Talavera A, Guzman R and Garcia EL (1991). Growth and development of children of mothers treated with chemotherapy during pregnancy: current status of 43 children. *American Journal of Hematology* **36** 243-8.

Bromley B and Benacerraf B (1997). Adnexal masses during pregnancy: accuracy of sonographic diagnosis and outcome. *Journal of Ultrasound in Medicine* **16** 447-52.

Hess LW, Peaceman A, O'Brien WF, Winkel CA, Cruikshank DP and Morrison JC (1988). Adnexal mass occurring with intrauterine pregnancy: report of fifty-four patients requiring laparotomy for definitive management. *American Journal of Obstetrics & Gynecology* **158** 1029-34.

Malone JM, Gershenson DM, Creasy RK, Kavanagh JJ, Silva EG and Stringer CA (1986). Endodermal sinus tumor of the ovary associated with pregnancy. *Obstetrics & Gynecology* **68**(3 Suppl) 86S-9S.

Motegi M, Takakura S, Takano H, Tanaka T and Ochiai K (2007). Adjuvant chemotherapy in a pregnant woman with endodermal sinus tumor of the ovary. *Obstetrics & Gynecology* **109**(2 Pt2) 537–40.

Thanaboonyawat I and Benjapibal ML (2008). A Case of Ovarian Endodermal Sinus Tumor Diagnosed during Pregnancy. *Journal of the Medical Association of Thailand* **91**(5).

Umezu T, Kajiyama H, Terauchi M, Shibata K, Ino K, Nawa A and Kikkawa F (2008). Long-term outcome and prognostic factors for yolk sac tumor of the ovary Nagoya. *Journal of Medical Sciences* **70** 29- 34.

Zemlickis D, Lishner M, Degendorfer P, Panzarella T, Sutcliffe SB and Koren G (1992). Fetal outcome after inutero exposure to cancer chemotherapy. *Archives of Internal Medicine* **152** 573-6.