

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20184176>

Case Report

Yolk sac tumor in an antenatal patient: a challenging case

Anu Namgyal*, Anjali Soni, Suresh Verma,
Indu Chauhan, Shikha Sharma, Charu Purbia

Department of Obstetrics and Gynecology, DRPGMC, Tanda, Kangra, Himachal Pradesh, India

Received: 29 July 2018

Accepted: 28 August 2018

*Correspondence:

Dr. Anu Namgyal,

E-mail: dr.anu.namgyal@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Pregnancy complicated with adnexal masses is a very common occurrence. However, most of these adnexal masses encountered in pregnancy are benign in nature and are found incidentally during routine antenatal ultrasound. Malignant ovarian neoplasms account for 1%-8% of all persistent adnexal masses diagnosed during pregnancy. Yolk sac tumor (YST) complicating pregnancy is very rare and has no proper guidelines for its diagnosis and management hence causing a therapeutic dilemma for the clinicians. Therefore, an individualised approach is preferred in such cases. It is very important to report such cases for better understanding and management of these cases. Here we present a case report of a 23-year-old primigravida at 30 weeks gestation with yolk sac tumor of right ovary, surgical stage IIIC who responded well to fertility sparing surgery with cisplatin-based combination chemotherapy. She has no evidence of disease post treatment and has been put on regular follow up.

Keywords: Endodermal sinus tumor, Germ cell tumor, Ovarian malignancy, Pregnancy, Yolk sac tumor

INTRODUCTION

There is an increase in the incidence of adnexal masses detected during pregnancy due to an increased use of ultrasound and better health care. The majority of adnexal masses detected during pregnancy are benign which usually resolve by the second trimester. Dermoid cyst is the most common persistent adnexal mass associated with pregnancy followed by benign serous or mucinous cystadenoma.¹ Malignant ovarian neoplasms account for 1%-8% of all persistent adnexal masses diagnosed during pregnancy.²⁻⁴ Germ cell tumor is the most common malignancy encountered in a reproductive age group.⁵ It poses a diagnostic as well as therapeutic dilemma for the clinicians due to the non-reliability of tumour markers during pregnancy and non-availability of proper guidelines for the management of these cases. Pregnancy complicated by endodermal sinus tumor of the ovary is extremely rare, thereby posing a mystery for the

clinicians.⁶ Hence, we are presenting a case report of an antenatal patient with right adnexal mass which was subsequently found to be a primary yolk sac tumor (YST) of the ovary with stage IIIC. Right salpingo-oophorectomy followed by combination chemotherapy was initiated with bleomycin, etoposide, and cisplatin (BEP) regime and after four cycles she is on regular follow up with no evidence of disease as of now.

CASE REPORT

We report a case of 23-year-old primigravida with history of amenorrhea since 7 ½ months with incidental finding of a large abdominopelvic solid mass showing cystic spaces with internal vascularity with 30 weeks pregnancy on ultrasound. The patient was asymptomatic throughout her pregnancy and did not get any ultrasound done prior to the ultrasound at 30 weeks. On examination she was average built, with pulse rate of 92/minute and blood

pressure of 132 / 80 mm of Hg. She had moderate pallor with bilateral pitting pedal oedema. Other systems were within normal limits. On per abdominal examination the abdomen was overdistended with abdominal wall oedema. Uterus was 30 weeks and was deviated to left side and could be felt separately from the mass. Foetal heart was regular at 140 / minute. An abdominopelvic mass extending from right adnexal region up to right hypochondrium and epigastrium was felt which was solid cystic in consistency, mobile, non-tender, separately felt from uterus of which lower border could not be reached. Her blood group was B positive, Hb 7.6 g/dl, TLC-5,600, Platelet count - 5,22 thousand/ μ l. On iron studies she was found to have microcytic hypochromic type of anaemia. Her beta HCG was 15000 mIU/ml, serum LDH was 1988 U/l, serum AFP - 83,348 ng/ml and CA 125 was 90.2 U/ml. On Obstetrical ultrasound there was a single live intrauterine foetus of 31w0d \pm 2w3d, amniotic fluid index of 9.3, placenta anterior not low lying with EFW 1849 \pm 462 grams. On pelvic ultrasound a large intra-abdominal solid cystic mass 30*20*20 centimetres, with no increased vascularity or calcifications was seen separately from the gravid uterus, having intra-peritoneal location, separate from gall bladder, kidneys and liver, with origin in right adnexal region. It was present in epigastrium and crossing over onto opposite side with compression of abdominal vessels and no extension to skin surface (Figure 1).



Figure 1: Ultrasound image of the ovarian tumor

On magnetic resonance imaging a large solid cystic mass lesion of size 20*18.7*20 centimeters with multiple loculations extending from the right adnexa up to the right hypochondrium with extension across the midline arising from the right ovary was seen, with no evidence of loss of fat planes with surrounding structures and the possibility of germ cell tumor of right ovary with moderate ascites was kept. She was given 3 whole blood transfusions to build up her hemoglobin and was started on tocolytics and prophylactic steroid and was planned for exploratory laparotomy. Exploratory laparotomy

proceeds surgical staging with right salpingo-oophorectomy (Figure 2) was done under epidural anesthesia and surgical stage IIIC was assigned. Post operatively she was started on IV antibiotics and tocolytics despite of which, she went into spontaneous preterm labour and delivered a preterm female child of birth weight 1.5 kilograms who succumbed on day 2 due to prematurity with hyaline membrane disease.

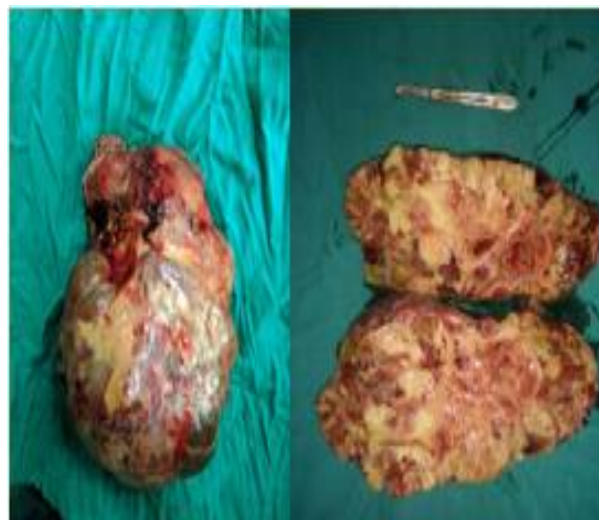


Figure 2: Ovarian tumor after removal

On histopathology the diagnosis of yolk sac tumor was given and hence the patient was given four cycles of BEP with GCF support. She did not develop any complications in between and has no evidence of disease as of now.

DISCUSSION

Yolk sac tumor develop as a result of differentiation of primitive malignant germ cell elements in the direction of yolk sac or vitelline structures. These are also termed endodermal sinus tumor as the tumor structure is similar to that of the endodermal sinuses of the rat yolk sac and is derived from the primitive yolk sac.

YST is the second most common malignant germ cell tumor of the ovary.⁷ Yolk sac tumor complicating pregnancy is a very rare occurrence and has no proper guidelines for its management hence causing a therapeutic dilemma for the clinicians. Combination chemotherapy has improved the survival rate dramatically.⁸ However, the standard therapeutic strategy remains uncertain.

Because YSTs are rare and mostly occur in young girls or adolescents, deciding between preservation of the reproductive function and achievement of long-term survival is sometimes difficult. Fertility-sparing surgery for patients with YSTs was found to be as effective as radical surgery due to the advent of combination chemotherapy.⁹ The effect of the BEP combination

regimen following fertility-sparing surgery for ovarian YSTs was very good, with a 94% 5-year survival rate and 90% disease-free survival rate.¹⁰ In our case conservative and comprehensive staging surgery was done for a right ovarian YST at 30 weeks gestation for a stage IIIC. The surgery was followed by BEP regime and the patient has been disease free since last seven months now with regular follow ups scheduled.

CONCLUSION

Germ cell tumor with pregnancy is a very rare entity which is very difficult to diagnose with no proper guidelines for its management hence having an individualised approach to every case. It is important to discuss these cases as they are rare, difficult to diagnose, malignant with rapid spread and are highly responsive to chemotherapy so fertility sparing surgeries can be undertaken successfully. These cases need an individualised approach for now, so these case studies will help in further planning for the patients and help in developing a proper guideline for management of such cases.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. De Haan J, Verheecke M, Amant F. Management of ovarian cysts and cancer in pregnancy. *Facts, Views and Vision in Obstet Gynecol.* 2015;7(1):25-31.
2. Yakasai IA, Bappa LA. Diagnosis and Management of Adnexal Masses in Pregnancy. *Journal of Surgical Tech Case Report.* 2012;4(2):79-85.
3. Bromley B, Benacerraf B. Adnexal masses during pregnancy: accuracy of sonographic diagnosis and outcome. *J Ultrasound Med.* 1997;16(7):447-52.
4. Kort B, Katz VL, Watson WJ. The effect of nonobstetric operation during pregnancy *Surg Gynecol Obstet.* 1993;177(4):371-6.
5. Low JJ, Perrin LC, Crandon AJ, Hacker NF. Conservative surgery to preserve ovarian function in patients with malignant ovarian germ cell tumors. A review of 74 cases. *Cancer.* 2000;89(2):391-8.
6. Elit L, Bocking A, Kenyon C, Natale R. An Endodermal Sinus Tumor Diagnosed in Pregnancy: Case Report and Review of the Literature. *Gynecol Oncol.* 1999;72(1):123-7.
7. Quirk JT, Natarajan N. Ovarian cancer incidence in the United States, 1992e1999. *Gynecol Oncol* 2005;97(2):519e23.
8. Willemse PH, Aalders JG, Bouma J, Mulder NH, Verschueren RC, DeVries EG, et al. Long-term survival after vinblastine, bleomycin, and cisplatin treatment in patients with germ cell tumors of the ovary: an update. *Gynecol Oncol.* 1987;28(3):268e77.
9. Cicin I, Saip P, Guney N, Eralp Y, Ayan I, Kebudi R, et al. Yolk sac tumours of the ovary: evaluation of clinicopathological features and prognostic factors. *Eur J Obstet Gynecol Reprod Biol* 2009;146(2):210e4.
10. de La Motte Rouge T, Pautier P, Duvillard P, Rey A, Morice P, Haie-Meder C, et al. Survival and reproductive function of 52 women treated with surgery and bleomycin, etoposide, cisplatin (BEP) chemotherapy for ovarian yolk sac tumor. *Ann Oncol* 2008;19(8):1435e41.

Cite this article as: Namgyal A, Soni A, Verma S, Chauhan I, Sharma S, Purbia C. Yolk sac tumor in an antenatal patient: a challenging case. *Int J Reprod Contracept Obstet Gynecol* 2018;7:4318-20.