

Case Report

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Ovarian Malignancy During Pregnancy: A Case Report

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ABSTRACT

The occurrence of ovarian cancer in pregnant women is rare. Due to the scarcity of cohort studies and randomized trials, treatment options for this condition remain poorly understood. We report here the case of a 18year old female, at 20+4weeks of gestation diagnosed with Ovarian malignancy, treated with clearance surgery. Subsequent pathological findings confirmed the diagnosis of Juvenile Granulosa cell Tumor and appears to be the first reported case in Services Hospital Lahore. The findings from this case concluded that early presentation can save the young patient from clearance surgery. Multidisciplinary approach should be preferred regarding management of Sex cord or Granulosa cell tumor during pregnancy. This review examines the latest guidelines for managing pregnant patients, taking into account factors such as gestational age at diagnosis, tumor histology, disease stage, potential obstetrical complications, and patient preferences.

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Introduction

Ovarian cancer ranks among the most frequently diagnosed gynecological malignancies during pregnancy [1]. Prevalence in general population is 1 in 15000 to 1 in 32000 pregnancies [2]. An estimated 2.8 to 11 per 100,000 pregnancies are complicated by ovarian malignancies, with approximately 5% of these tumors being cancerous. Following cervical cancer, ovarian malignancies are the second most frequently diagnosed gynecological cancer during pregnancy. In previous studies, incidence of ovarian malignancy is 0.02 to 0.38 per 10,000 pregnancies. Despite the low incidence of gestational ovarian malignancy, it affects maternal and perinatal management [3]. Ovarian malignancy is estimated to occur in approximately 0.05 to 1% of pregnancies. Adnexal masses are frequently detected incidentally during the first trimester, with only 3-6% proving to be malignant, typically identified at an early stage. A review indicated that ovarian cancer ranks as the sixth most common cancer in the Asian population [2]. Approximately 10% of Granulosa Cell Tumor present in pregnancy. 2% of masses in pregnancy are malignant, these can be managed expectantly if diagnosed in the 1st trimester. Tumors persisting in 2nd trimester, complex or greater than 6cm should be managed surgically [4]. Granulosa cell tumors (GCTs) of the ovary represent a rare subset of ovarian malignancies, estimated at 3-5% of cases. The two primary types include the adult GCT, which accounts for 95% of occurrences, and the juvenile GCT, a less common form seen in 5% of cases, primarily affecting teenagers and young women [5]. In this case we report Juvenile Granulosa cell tumor in young

female presented in 2nd trimester of pregnancy. The management was based on surgery and chemotherapy.

Case Report

A 18year old female, Married for 1.5years, Primigravida at 20+4weeks presented in the Emergency department of Obstetrics and Gynecology Services Hospital Lahore. The presenting problems were abdominal pain, abdominal distension from 8days and constipation from 4days. Physical examination reveal abdomen tense, distended, fluid thrill +ve. On Ultrasound there was 15cm adnexal mass with solid and cystic components and abdominopelvic ascites; possibility of ovarian malignancy. Provisional diagnosis was Malignant Ovarian Tumor. An exploratory laparotomy (Hysterotomy followed by TAH+BSO+Infracolic omentectomy+resection anastomosis) was performed due to Malignant Ovarian Tumor Stage IV (Figure 1). On gross examination, Rt.ovarian tumor 18 * 20cm with torsion. Whole tissue was necrosed, friable, 4-5 liters of hemorrhagic ascitic fluid drained (Figure 2). Metastatic deposits noted in mesentery, anterior surface of bladder, pouch of Douglas, omentum was thickened & fibrosed. Liver was granular with metastatic deposits. Multiple mesenteric and para-aortic lymph nodes largest one 2.5cm noted in the mesentery. Tumor deposits on distal ileal mesentery and enlarged lymph nodes (Figure 3). Resection anastomosis of distal ileum done 8cm from ICJ, taking down about 15cm of ileum along with mesentery. Frozen section sent which revealed Neoplastic Ovarian Mass Suspicious for Malignancy. Microscopic examination reveals a neoplasm arranged in sheets intermixed with follicle like structures filled with mucoid material. The cells are small and cuboidal to polygonal in shape, with round

hyperchromatic nuclei, noticeable nucleoli, and scant cytoplasm. Areas of infarction are prominent multiple mitotic figures (**>20 mitosis/10HPF**) (Figure 4), 4 reactive lymph nodes identified with Immunostains **Inhibin** and **Calretinin** positive in tumor cells. Diagnosis of Sex cord stromal tumor-Granulosa cell tumor, Juvenile type, pT1.



Figure 1



Figure 2: Necrosed, friable Ovarian Tumor



Figure 3: Metastatic deposits on distal ileum

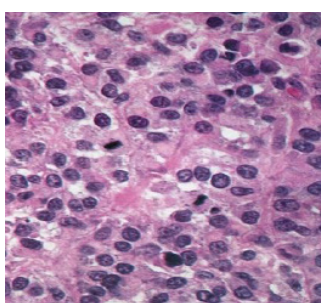


Figure 4

Discussion

Granulosa cell tumors make up 5-8% of ovarian tumors and are responsible for complications in 10% of pregnancies. They often appear as sizable unilateral masses, presenting with vague or nonspecific symptoms. The recommended management is surgical and long follow-up is advised [6]. The primary challenge in managing ovarian masses during pregnancy lies in balancing the outcome of the pregnancy with the risk of cancer. The prognosis of Granulosa Cell Tumor is better than Epithelial Ovarian Tumors as they are having low malignant potential and late recurrence. There are controversies in the surgical management of Granulosa Cell Tumor. The Zhang study reported on 132 patients, with ages both under and over 50, of which 61 (46%) underwent surgical management, including hysterectomy, while 71 (54%) had uterine-sparing surgery. In our case, conservative surgery was not recommended due to the tumor being at stage IV [5,7].

Conclusion

The management of Granulosa Cell Tumor is based on surgery. Multidisciplinary approach is required between gynecological oncological surgeons, obstetrician, radiologists, oncologist, anesthesiologist, neonatologist and pathologist. Conservative management is for early-stage tumors. A special emphasis on psychological and sexual counselling for management and good quality of life. For enhanced surgical approach regarding Granulosa Cell Tumor more studies are required to predict fertility, oncological results and prognosis of patient.

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