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Mixed Germ Cell0Sex Cord Stromal Tumor in Pregnancy: A Rare Ovarian Neoplasm Diagnosed Incidentally

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Abstract: ***Mixed germ cell-sex cord stromal tumors (MGCSTs) of the ovary are rare, especially during pregnancy. We report a case of a 32-year-old pregnant woman with an incidental right ovarian mass detected during routine ultrasonography. Histopathology revealed a mixed tumor with predominant sex cord-stromal and minor germ cell components. Immunohistochemistry confirmed the diagnosis. Early identification of such tumors is essential in pregnancy to guide appropriate management and improve maternal-fetal outcomes.***

Keywords: Ovarian tumor, Germ cell, Pregnancy

1. Introduction

Mixed germ cell sex-cord stromal tumor is an extremely rare neoplasm of the ovary showing admixture of germ cells and sex cord cells. Good documentation can give rise to individual germ cell components or mixed germ cell tumors with various components. MGCSTs often consist of multiple components, such as dysgerminoma, yolk sac tumor, embryonal carcinoma, and teratoma.

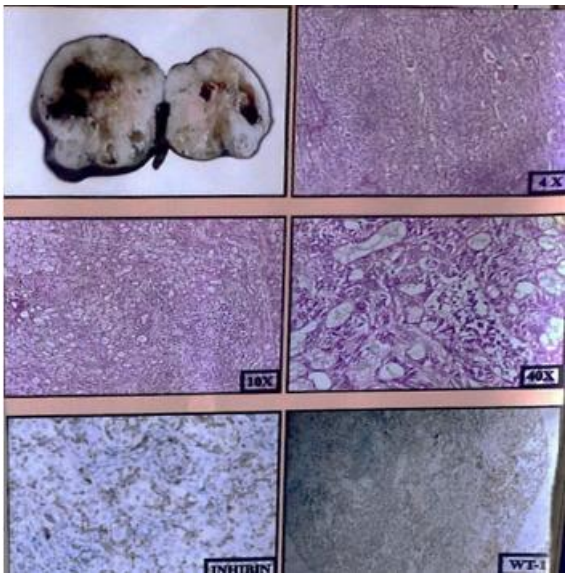
These tumors can mimic benign conditions like fibroids in early pregnancy, leading to delayed diagnosis.

2. Case Presentation

A 32-year-old pregnant female presented to an antenatal clinic for her routine checkup at 9th week gestation. Ultrasonography revealed a right ovarian mass incidentally during a routine USG at 12 weeks with asymptomatic presentation.

3. Diagnostic Workup

1) **Gross Description:** Ovarian mass was 9x8x6 cm; was partially cystic and mainly solid with bosselated surface, cut section showed some grey yellow areas and cystic spaces filled with mucinous fluid.
2) **Ultrasonography Obstetrics:** A large heteroechoic complex cystic mass lesion measuring 9x8 cm extending up to right lumbar region. The lesion shows variable echogenic areas, septations and internal echoes. Findings 8/10 → Large right ovarian endodermal sinus.
3) **Histopathology:** Multiple sections examined comprised of tumor cells arranged in cords and nests. The germ cell areas characterized by embryoid bodies visible and ample cytoplasm and thin septations. Also comprised a population of cells from sex cord stromal cells which showed ill formed cords and anastomosing cords with cytoplasmic and nuclear atypia. Histopathological features are suggestive of mixed germ cell-sex cord stromal tumor (Gonadoblastoma).
   Component Distribution: Dysgerminoma – 15%, sex cord stromal tumor – 85%
4) **Immunohistochemistry:** On applying IHC tumor cells are positive for PANCK and WT1 with weak inhibin positivity.



4. Discussion

- Ovarian germ cell tumors constitute almost 15–20% and mixed germ cell tumors are rare, commonly seen in women of reproductive age group, including in pregnancy or extremely rare.
- Routine USG helps in identifying incidental ovarian tumors.
- These asymptomatic tumors are sometimes missed due to they are large or co-existing conditions like fibroids or imaging done for other indications.
- Pregnancy associated with ovarian malignancy pose significant diagnostic and therapeutic challenge and up until well defined diagnosis to be warranted urgently on every asymptomatic mass.
- Treatment options should be discussed and tailored according to patient condition depending on tumor aggressiveness, site of mass, extension etc for better outcome of patient.

5. Conclusion

The association of mixed germ cell sex-cord stromal tumor in pregnancy is alarming as it often goes undetected and is diagnosed at an advanced stage.

This poster highlights an extremely important but rare pathological combination of germ cell and sex cord stromal tumor in a pregnant woman which will be helpful to predict the prognosis and management.

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