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Malignant mixed ovarian germ cell tumor with embryonal component: the case report

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Abstract
Malignant tumors of the germ cells often affect young women of reproductive age. The high qualification of the pathologist in the diagnosis of the tumor process is important, because the treatment of these tumors requires the use of surgical methods and chemotherapy, which do not always preserve fertility. Early diagnosis makes it possible to save important time and increases the chance of maintaining ovarian function and the ability to bear children after recovery.

Introduction

Ovarian germ cell tumors are not common in practice. A small percentage of such tumors (2-3%) are malignant. Germ cell tumors develop from primitive germ cells, later gradually differentiate to mimic the tissues of embryonic leaf development (ectoderm, mesoderm, endoderm) and extraembryonic tissues (yolk sac and trophoblast). Homologous analogues to ovarian germ cell tumors can be found in the testes [1, 2, 4]. Pure embryonic carcinomas are extremely rare, mainly as a component of a mixed germ cell tumor and consist of primitive embryonic cells. Mixed germ cell tumors with embryonal carcinoma, nongestational choriocarcinoma, and polyembryoma are less common. Embryonal carcinomas, though rare, are one of the most malignant cancers arising in the ovary [3].

Case report

A case of 20-year-old female with abdominal pain and signs of ectopic pregnancy which was treated via surgical resection. Post-operative material was sent for further examination to the pathomorphological department of the Ivano-Frankivsk Regional Clinical Hospital. The histological methods were used.

From the anamnesis it was known that the woman complained of abdominal pain, delayed menstruation, a sharp increase in weight. On examination, chorionic gonadotropin is sharply elevated, ultrasound revealed tumor formation in the ovarian region.

Macroscopically, the formation resembled a mucous tumor-like structure with a smooth surface, a diameter of 6 cm. The incision surface was solid, brownish, with cysts containing mucoid material, hemorrhage and necrosis.

Microscopically: the tumor is poor-differentiated, contains strips of cells with central necrosis, glandular spaces and papillae. Tumor cells are large, with vacuolated cytoplasm, contain circular vesicular nuclei with coarse-grained chromatin and irregular membrane, single nucleoli are pronounced, numerous mitotic figures are present. Syncytiotrophoblastic giant cells are also observed.

Conclusions

Malignant germ cell tumors frequently affect adolescent women of reproductive age. Embryonic carcinoma is rare, but needs special attention in diagnosis, where the main method is histological examination and high qualification of the pathologist doctor.

References

[1] Hogg R, Friedlander M. Management of embryonal carcinoma of the ovary. J Gynecol Oncol. 2002;7:234.

[2] Katz VL, Lentz GM, Lobo RA, et al. Neoplastic diseases of the ovary. In: Comprehensive Gynecology. 5. Philadelphia: Mosby Elsevier; 2007. pp. 865–871.

[3] Moniaga NC, Randall LM. Malignant Mixed Ovarian Germ Cell Tumor with Embryonal Component. Journal of Pediatric and Adolescent Gynecology [Internet]. 2011 Feb;24(1):e1–e3. Available from: https://doi.org/10.1016/j.jpag.2010.05.001

[4] Safdar NS, Stall JN, Young RH. Malignant Mixed Germ Cell Tumors of the Ovary. American Journal of Surgical Pathology [Internet]. 2020 Dec 4;45(6):727–741. Available from: https://doi.org/10.1097/PAS.0000000000001625