

Case Report**A pure nongestational choriocarcinoma of the ovary***Mohammad Ali Roghaei**, *Farimah Rezaei***, *Parvin Mahzuni******Abstract**

Choriocarcinoma arises in the ovary from gestational or nongestational origin. Nongestational choriocarcinoma of the ovary is extremely rare and the pure type is less frequent than the mixed type with other germ cell tumors. We report a pure nongestational choriocarcinoma primarily arising in a 47-year-old woman's ovary. Following abdominal operative procedure, careful examination of the tumor revealed choriocarcinoma without combination of other germ cell tumors. Multiple courses of the chemotherapy with and EMA/CO regimen were effective for this case.

KEY WORDS: Choriocarcinoma, nongestational, ovary.

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Choriocarcinoma of the ovary is a rare and aggressive neoplasm. Most ovarian choriocarcinomas are gestational in origin and usually metastasize to the ovary from uterine or tubal choriocarcinomas. Nongestational choriocarcinoma of the ovary is exceedingly rare and usually seen with other germ cell tumors. This fact will be a diagnostic aid for its nongestational origin. Furthermore, pure type nongestational choriocarcinoma is extremely rare and its diagnosis is very difficult. We report here a case of pure nongestational choriocarcinoma of the ovary occurring in a 47-year-old woman 4 years after her menopause.

Case report

A 47-year-old G5L3D2 and 4 years postmenopausal woman was admitted to Alzahra hospital in April 2002 with a painful abdominal mass. A vaginal ultrasound and CT scan imaging showed a 100 mm mass in right adnexa, consistent with an ovarian tumor. At the

laparotomy, a huge right ovarian tumor was found. Transabdominal hysterectomy and bilateral salpingo-oophorectomy, partial omentectomy and lymph node dissection were carried out following abdominal operative procedure. Careful analysis on about 30 histological specimens of the tumor revealed a pure choriocarcinoma without combination of other germ cell elements. Figures 1 and 2 demonstrate the microscopic wide area of necrosis and hemorrhage in which atypical cytotrophoblastic and syncytiotrophoblastic cells were observed. These cells were immunoreactive for HCG strain. There were no elements suggesting other germ cell tumors. Thus, the histological diagnosis was pure choriocarcinoma of the ovary (figure 1). Her preoperative serum β -hCG level was 970 IU/l. Computed tomography showed multiple lung metastases.

We began adjuvant chemotherapy with EMA/CO regimen. After multiple courses of chemotherapy, the β -hCG level decreased to 20 IU/l and the metastatic lesions of the lung vanished.

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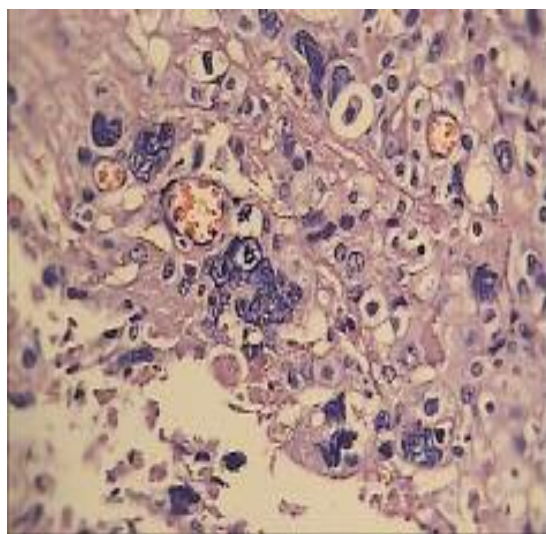


Figure 1.

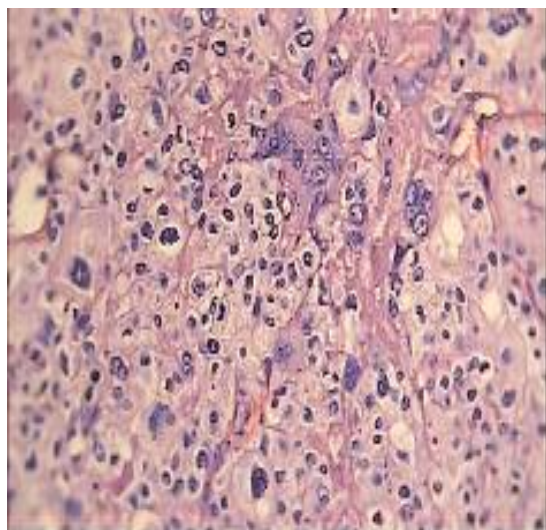


Figure 2.

Discussion

Choriocarcinoma is categorized as either gestational or nongestational¹. Nongestational choriocarcinoma should be distinguished from metastatic gestational choriocarcinoma. A concomitant or proximate pregnancy almost always indicates the latter². Choriocarcinoma is an example of extraembryonic differentiation of malignant germ cells. This highly malignant germ cell tumor differentiates towards trophoblastic structures. It is extremely rare as a primary ovarian tumor, with an estimated incidence of 1 in 369,000,000. Primary gestational choriocarcinoma associated with normal pregnancy and nongestational ovarian choriocarcinomas are histologically identical^{3,4}. All choriocarcinomas produce HCG, which may cause isosexual precocity in young girls and irregular vaginal bleeding of uterine origin in adults. Serum levels of hCG are useful for monitoring response to treatment. Gestational choriocarcinoma has been treated by methotrexate-based chemotherapy but some previous reports mentioned that nongestational choriocarcinoma could be resistant to methotrexate-based chemotherapy and require more aggressive combination chemotherapy⁵. In our case the EMA-CO and EMA-EP regimens were effective. Diagnosis of the case was based on patient's history and pathological findings. To our knowledge approximately 40 cases of nongestational choriocarcinoma have been reported up to now⁶.

References

1. Corakci A, Ozeren S, Ozkan S, Gurbuz Y, Ustun H, Yucesoy I: **Pure nongestational choriocarcinoma of ovary.** *Arch Gynecol Obstet* 2005, 271: 176-177.
2. Ulbright TM: **Germ cell tumors of the gonads: a selective review emphasizing problems in differential diagnosis, newly appreciated, and controversial issues.** *Mod Pathol* 2005, 18 Suppl 2: S61-S79.
3. Wheeler CA, Davis S, Degefu S, Thorneycroft IH, O'Quinn AG: **Ovarian choriocarcinoma: a difficult diagnosis of an unusual tumor and a review of the hook effect.** *Obstet Gynecol* 1990, 75: 547-549.
4. Cunanan RG, Jr., Lippes J, Tancinco PA: **Choriocarcinoma of the ovary with coexisting normal pregnancy.** *Obstet Gynecol* 1980, 55: 669-672.
5. Balat O, Kutlar I, Ozkur A, Bakir K, Aksoy F, Ugur MG: **Primary pure ovarian choriocarcinoma mimicking ectopic pregnancy: a report of fulminant progression.** *Tumori* 2004, 90: 136-138.
6. Koo HL, Choi J, Kim KR, Kim JH: **Pure non-gestational choriocarcinoma of the ovary diagnosed by DNA polymorphism analysis.** *Pathol Int* 2006, 56: 613-616.