Ruptured granulosa cell tumor of the left ovary and mature cystic teratoma of the right ovary: A case report of unusual acute abdominal syndrome

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Summary

Although granulosa cell tumor combined with a dermoid cyst in the same ovary is rarely seen, adult granulosa cell tumor of the ovary with contralateral teratoma has not been reported to date. In this report we present the first case in the English language literature of a ruptured granulosa cell tumor of the left ovary and mature cystic teratoma of the right ovary presenting as acute abdominal syndrome. The patient underwent total abdominal hysterectomy, bilateral-ophorectomy, and multiple pelvic lymph node sampling and infracolic omentectomy. She received combined chemotherapy consisting of bleomycin, etoposide, and cisplatin for six cycles. Subsequent follow-up and workups have revealed no evidence of disease.

At 19 months after initial diagnosis, she is disease-free.

Key words: Granulosa cell tumor; Teratoma; Ovary; Acute abdomen.

Introduction

Ovarian sex cord-stromal tumors account for less than 5% of all ovarian carcinoma, of which granulosa cell tumors account for 70% [1]. Accounting for more than 95% of all ovarian teratoma, the dermoid cyst, or mature cystic teratoma, is one of the most common ovarian neoplasms [1]. Teratomas account for approximately 15% of all ovarian tumors [1]. Although granulosa cell tumor combined with dermoid cyst in the same ovary is rarely seen [2, 3], adult granulosa cell tumor of the ovary with contralateral teratoma has not been reported to date.

In this report we present the first case in the English language literature of a ruptured granulosa cell tumor of the left ovary and mature cystic teratoma of the right ovary presenting as acute abdominal syndrome.

Case Report

A 42-year-old patient presented with acute abdomen to the emergency department of our hospital. The patient underwent parasentesis. The parasentesis was positive for intraperitoneal hemorrhage. Explorative laparotomy revealed a ruptured tumor of the left ovary 18x24x14 cm in diameter and a right ovarian tumor 12x15x11 cm in diameter.

Approximately two liters of free blood was aspirated. The patient underwent total abdominal hysterectomy, bilateral-oophorectomy, and multiple pelvic lymph-node sampling and infracolic omentectomy. There was no residue tumor.

Pathologic findings

The left ovarian tumor was ruptured, sectioned surfaces showed yellow, solid tissues mixed with cystic spaces filled with clotted blood and small necrotic areas. The cystic right ovarian tumor was filled with hair and yellow sebaceous material.

Microscopic examination of the left ovarian tumor revealed granulosa cells with nuclear groves growing in the trabeculae and cords separated by cellular fibrous tissue, but in some areas a diffuse-type growth pattern (sarcomatoid) was prominent (Figure 1). In sarcomatoid areas the mitotic count was 3-5 per 10 high-power fields. Immunohistochemically tumor cells were focally positive for smooth muscle actin (Neomarkers), and negative for epithelial membrane antigen (Neomarkers), pancytokeratin (Neomarkers) and desmin (Neomarkers). Light microscopy of the right ovary showed the skin and its appendages (Figure 2). The final pathologic report revealed adult granulosa cell tumor with a sarcomatoid component of the left ovary and mature cystic teratoma of the right ovary. No metastases were found in the omentum or four pelvic lymph nodes. Endometrial tissue showed proliferative phase features.

The patient received combined chemotherapy consisting of bleomycin, etoposide, and cisplatin for six cycles. Subsequent follow-up and workups have revealed no evidence of disease. At 19 months after initial diagnosis, she is disease-free.

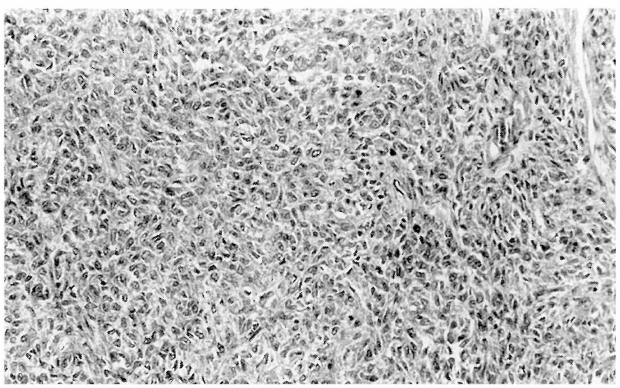

Figure 1. — Adult-type granulosa cell tumor, left ovary. Oval or spindle-shaped granulosa cells showing a diffuse type (sarcomatoid) growth pattern (Hematoxylin-eosin x 100).

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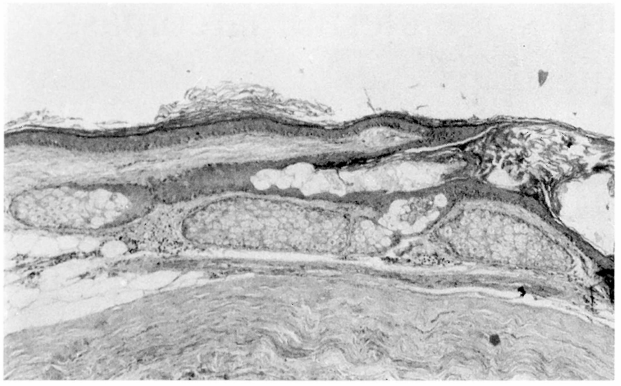

Figure 2. — Mature cystic teratoma, right ovary, showing keratinized squamous epithelium and skin appendages (Hematoxylin-eosin x 40).

Discussion

More commonly, adult granulosa cell tumor is predominantly cystic and this cyst is generally filled with serous fluid or clotted blood [4]. Although 80%-85% of granulosa cell neoplasms are palpable on abdominal or pelvic examination, about 15% of patients with cystic granulosa cell tumors are first examined for acute abdomen associated with hemoperitoneum as in our case [1]. Adult granulosa cell tumors vary greatly in gross appearance; sometimes they are solid tumors that are soft or firm, depending on the relative amounts of neoplastic cells and fibrothecomatous stroma they contain. They are yellow or gray in color depending on the amount of intracellular lipid in the lesion [5].

Benign cystic teratomas are composed entirely of mature tissues, usually representing all three germ layers. Perhaps 25% of dermoid cysts are discovered in asymptomatic women on routine pelvic examination at the time of surgery for other diseases.

Although severe acute abdominal pain is usually the initial symptom, and the condition is considered an acute abdominal emergency, rupture of a mature cystic teratoma is an uncommon complication occurring in approximately 1% of cases [1].

To the best of our knowledge there has been no other report of adult granulosa cell tumor of the ovary with contralateral teratoma. In this report we describe adult granulosa cell tumor of the left ovary and mature cystic teratoma of the right ovary presenting as acute abdominal syndrome.

This rare malignancy responds well to surgery and postoperative chemotherapy including bleomycin, etoposide, and cisplatin.

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