Ovarian hemangioma with elevated CA125 and ascites mimicking ovarian cancer

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Summary

We report a case of a very rare tumor of the ovary with an unusual presentation; an ovarian hemangioma with massive ascites and elevated CA125.

A 57-year-old woman presenting with elevated CA125, massive ascites and a left solid adnexal mass of 60 x 47 mm, with calcification and increased blood flow at Doppler examination, was submitted to laparotomy. Frozen section was inconclusive and a staging procedure which complicated the patient was performed. Pathologic examination revealed cavernous hemangioma which is an extremely rare tumor of the ovary.

Although it is very unusual, an ovarian hemangioma may present with ascites and elevated CA125 and the differential diagnosis from ovarian cancer should be considered.

Key words: Ovarian hemangioma; Ascites; Elevated CA125.

Introduction

Vascular tumors of the ovary, especially cavernous hemangioma, are extremely rare and diagnosed incidentally. To our knowledge, only two cases of ovarian hemangiomas presenting with ascites and elevated CA125 have been reported in the literature [1, 2]. We report an unusual cavernous ovarian hemangioma with ascites and elevated CA125 mimicking ovarian cancer.

Case Report

A 57-year-old woman, Gravida 12, Parity 12, presented with abdominal discomfort and distention. Physical examination was unremarkable except for massive ascites and abdominal distention. Ultrasonographic examination revealed massive ascites and a complex, solid mass of 60 x 47 mm with irregular contours in the left ovary. There was increased vascularization at Doppler study. Abdominal ultrasonography was normal except for left nephrolithiasis and grade 4 hydronephrosis. Computerized tomography was in accordance with abdominal and pelvic sonography. Her laboratory examination was unremarkable except for a CA125 level of 344 U/ml and a FSH level of 28.6 mIU/ml.

Laparotomy was performed via a midline incision. She had clear serous ascites of 1000 ml and a left adnexal mass of 60 x 47 mm, which was well-vascularized, pinkish-red in color and fleshy. The uterus and right ovary were normal. Abdominal cytology and the removed mass were sent for intraoperative frozen section which was inconclusive. The incision was then extended for a comprehensive staging procedure. Abdominal hysterectomy with contralateral salpingo-oophorectomy, appendectomy, omentectomy, pelvic lymph node dissection, paraaortic lymph node dissection from the bifurcation to the renal veins was performed. Nephrectomy was undertaken for the left kidney for grade 4 hydronephrosis. An antegrade ureteral stent was placed in the remaining right ureter. Microscopic diagnosis was ovarian hemangioma (Figure 1). There was no cytologic atypia in the endothelium covering the vascular channels that contained blood. Factor VIII immunostain confirmed the vascular origin of the tumor. The lesion was distinct from the ovary. Cytology of the ascites was normal.

The patient received six units of preoperative blood transfusion. Postoperatively she was complicated by anuria despite the ureteral stent. Retrograde pyelography revealed a fistula at the level of the aortic bifurcation and vena cava which was managed by transitory percutaneous diversion. The patient was well and discharged on the 24th postoperative day.

Discussion

Cavernous hemangioma is the most common ovarian vascular tumor followed by capillary hemangioma [3]. To date one case of capillary hemangioma presenting as an adnexal mass with ascites and elevated CA125 and another case of ovarian hemangioma presenting as pseudo-Meigs syndrome with elevated CA125 have been reported [1, 2]. In both cases, frozen section revealed a benign tumor of the ovary. We have presented a case of cavernous hemangioma with ascites and elevated CA125 where frozen section was inconclusive. Ovarian hemangiomas should be considered in the differential diagnosis of adnexal masses and these tumors may mimic ovarian cancer as in our case. Ovarian cancer staging is a radical procedure with a morbidity rate of 18-28% [4]. These benign tumors mimicking ovarian cancer may result in an unnecessary radical operation.

The differential diagnosis of ovarian hemangioma includes steroid cell tumor of the ovary and angiosarcoma. The tumor was not an angiosarcoma based on the absence of characteristic features such as marked cytological atypia, papillary endothelial tufting, necrosis,

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Figure 1. — Cavernous hemangioma of ovary with blood filled spaces.

hemorrhage, and increased mitotic activity. No evidence of hyperthecosis, Leidig cells or steroid cells excluded steroid tumor. Moreover, immunohistochemical examination revealed a cavernous hemangioma.

The etiology of ovarian hemangiomas is unknown. It has been reported that the origin may be stimulated by infection/hormones or a true hamartoma [1, 2]. The massive ascites in our case could have been due to vascular disturbances. Kaneta *et al.* stained solid ovary including ovarian hemangioma for CA125 [2]. The solid part of the ovary stained positive for Factor VIII and CD34, and negative for smooth muscle actin and CA125. However surface mesothelial cells of the ovary stained positive for CA125. It is assumed that the origin of CA125 is mesothelial cells.

Ovarian hemangiomas may present with massive ascites and elevated CA125, and could be confused with ovarian carcinoma. In highly vascularized tumors of the ovary with internal bleeding the differential diagnosis of hemangiomas from other solid adnexal masses should be considered. Conservative surgery and removal of the mass is the conclusive treatment.

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