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Case Report

Invasive recurrence of serous borderline ovarian tumor as multifocal lymphadenopathy 25 years after initial diagnosis

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Here, we report a case of a patient diagnosed with Stage IIIC serous low malignant potential ovarian tumor that had optimal debulking, followed by 7 cycles of triple agent chemotherapy, that presents with a recurrence 25 years later as disseminated lymphadenopathy with histologic futures consistent with low grade serous ovarian adenocarcinoma. To date, this is the case with the latest reported recurrence and demonstrates the importance of continued long term surveillance, displaying that borderline tumors can behave unpredictably and may recur as overt distant metastatic disease many years after initial diagnosis.

Introduction

Low malignant potential tumors (borderline) comprise 10–20% of epithelial ovarian neoplasms and they were first described by Taylor in 1929 (Taylor, 1929; Zanetta et al., 2001). Histologically, they are defined by atypical epithelial proliferation without stromal invasion. Although the majority are of serous or mucinous histology, endometrioid, clear-cell, and transitional cell borderline tumors have been described.

As opposed to women with invasive carcinoma, those with borderline tumors tend to be diagnosed at earlier stage and they have a much better prognosis than those with invasive carcinoma. The 5-year survival for women with stage I disease exceeds 95% (Zanetta et al., 2001). Nevertheless, recurrences have been known to present up to 10–15 years after the initial diagnosis and the 10-year survival figures show that some patients eventually die from the disease. Risk factors for recurrence are the stage of the disease and the presence of micropapillary features (Burks et al., 1996). The pelvis and abdomen are the usual sites of recurrences, but spread to other sites occasionally occurs. Although epidemiologic and biologic data support the idea that a relationship between invasive and low malignant potential ovarian tumors exists and that borderline tumors have the potential to recur as invasive disease, the natural history of progression to invasive ovarian cancer has not been elucidated. The role of chemotherapy and the radicality of surgical intervention remain controversial (Kurman and Trimble, 1993).

Case

A 20 year old nulliparous woman, initially presented with complaints of increasing abdominal girth, fatigue with a 20 pound weight loss within 3 months. Physical exam revealed a distended abdomen with fluid wave. CT abdomen and pelvis showed a complex, cystic pelvic mass and ascites. The patient underwent an exploratory laparotomy, total abdominal hysterectomy, bilateral salpingoophorectomy, omentectomy, appendectomy, peritoneal biopsies, pelvic and para-aortic lymph node dissection. Final pathology showed ovarian borderline papillary serous tumor. Omentum, pelvic and para-aortic lymph nodes were positive. Of note, all the implants were non-invasive and there was no focus of low grade serous carcinoma. The patient was given 7 cycles of triple agent chemotherapy (adriamycin, cisplatin, cyclophosphamide) and then she had a negative second look laparotomy. The patient continued to be on surveillance for the next 18 years with no suggestion of disease recurrence.

She remained disease free and well for 25 years, when she presented to her primary care doctor with complaints of a palpable neck mass, with no other complaints or physical exam findings. The neck mass was biopsied and was positive for malignant cells with features of low grade adenocarcinoma with psammoma bodies consistent with ovarian origin (Fig. 1). A PET-CT revealed retroperitoneal lymphadenopathy along the left paracaval lymphatic chain with SUV 6, lymphadenopathy in the celiac axis with SUV 3.7, right supraclavicular lymphadenopathy with SUV 6.3, paratracheal and subcarinal lymphadenopathy with SUV 4.4 (Fig. 2).

Given the diagnosis of recurrent disease, the patient was treated with Carboplatin and Taxol. After 6 cycles, partial response was noted with a decrease in CA 125 and the metabolic activity on the PET scan. Although the regimen was well tolerated, the patient withdrew from treatment due to social reasons.

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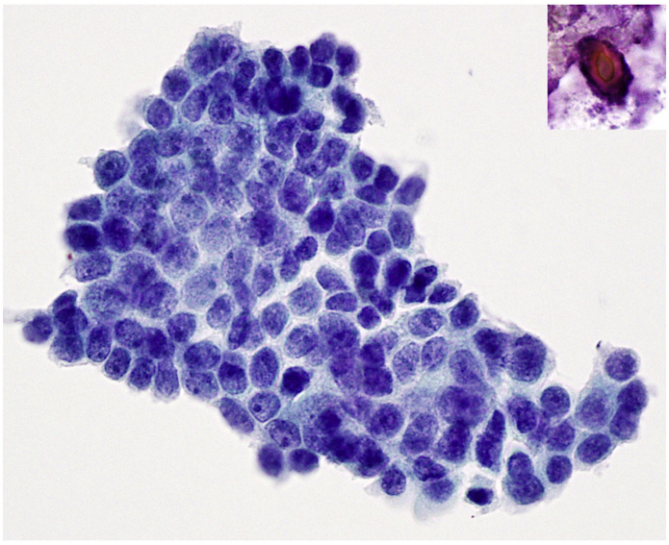

Fig. 1. Fine needle aspiration biopsy of right supraclavicular lymph node showing metastatic serous papillary carcinoma (Papanicolaou stain, 600×). Inset shows a psammoma body (Diff-Quik stain, 600×).

Discussion

The prognosis of low malignant ovarian tumors is excellent with the majority of the patients being diagnosed at early stage and the 5 year survival exceeding 95% in Stage I tumors (Zanetta et al., 2001).

However, approximately 10% of the patients eventually die of the disease (Kurman and Trimble, 1993). A unique characteristic of these tumors is the tendency for late recurrence that affects overall survival (Casey et al., 1993). Aure et al. (1971) displayed that the survival rate of these tumors dropped from 97% to 76% in the 5 to 20 year follow-up time. In addition, Leake et al. (1992) found that the survival rate dropped from 97% to 89% during the same time frame.

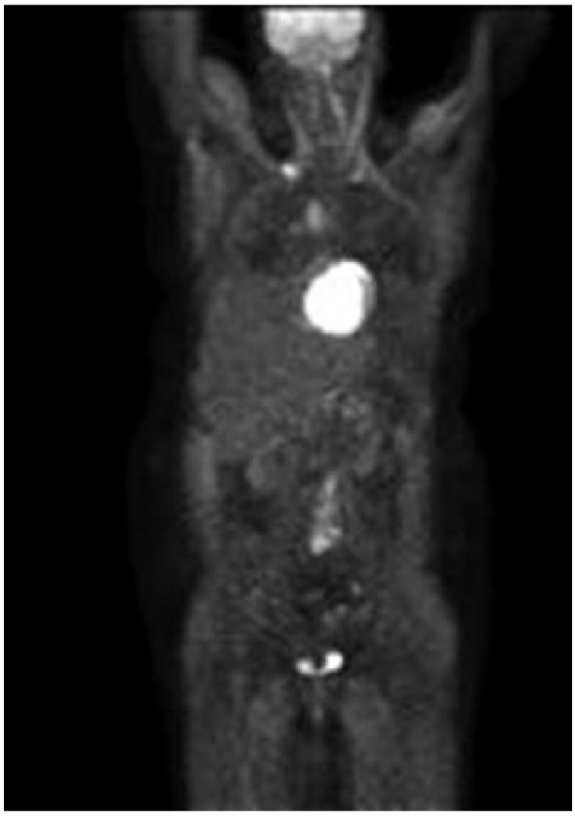

Fig. 2. Whole-body positron emission tomography scan showing hypermetabolic areas in neck, mediastinum and retroperitoneum.

The development of invasive ovarian carcinoma in patients with history of borderline ovarian tumors has been well documented in the literature and the estimated risk is 1–2% without major difference between serous and mucinous histology (Zanetta et al., 2001). Although advanced stage and micropapillary features have been recognized as risk factors for invasive recurrence the biology and natural history of progression have not been characterized (Kurman and Trimble, 1993). The aggressiveness of the surgical approach and the role of chemotherapy are controversial (Trimble, 1998).

The intensity of surgical staging is one of the main issues in the management of borderline ovarian tumors. Some authors advocate the use of staging principles applied to invasive ovarian cancer (Lin et al., 1999). In many cases the diagnosis of borderline tumor is made postoperatively and a subsequent staging procedure may be considered. Published data suggest that the risk of recurrence remains low even without tedious staging (Zanetta et al., 2001). In the view of the low incidence of recurrence in unstaged patients and the lack of effective adjuvant treatment the role of aggressive surgical staging remains controversial. Thorough inspection of the peritoneal cavity with multiple biopsies, partial omentectomy, and appendectomy is recommended while the role of retroperitoneal lymphadenectomy has not been elucidated. Conservative surgery in the form of unilateral salpingoophorectomy or cystectomy has been associated with a higher incidence of recurrences, but most recurrences may be salvaged by surgery and the conservative approach is considered reasonable in young women desiring fertility. Disease related deaths in patients managed conservatively are very rare. Zanetta et al. (2001) reported a higher rate of disease recurrence in women undergoing fertility-sparing surgery (19% v 5%) compared to 150 patients managed by more radical surgery. Thirty-one of thirty-five recurring in the contralateral ovary or in the same ovary after cystectomy were salvaged with repeat surgery alone. Careful preoperative counseling is recommended. Parity and desire for future fertility should be discussed so that the patient and surgical team should have a clear understanding of the surgical plan. Transvaginal ultrasound appears to be the most effective technique for the surveillance of conservatively managed patients. Patients undergoing fertility-sparing surgery often have healthy term infants during the post-treatment period and an increased risk of ectopic pregnancy or other pregnancy related complications has not been reported. The diagnosis of ovarian low malignant potential tumor should not preclude the use of in vitro fertilization when necessary to achieve pregnancy. Definitive surgery after successful pregnancies is advocated.(Zanetta et al., 2001; Trimble, 1998).

With regard to postoperative adjuvant treatment, chemotherapy and radiation have not shown effectiveness due to the low growth fraction of these tumors that is less than the cellular proliferation rate of the bone marrow. The risk of death from complications after chemotherapy or radiation appears to be higher than the risk of death due to progression to invasive cancer. In some studies the risk or recurrence is higher among women who received chemotherapy than among those who did not (Gershenson et al., 1998; Kurman and Trimble, 1993).

In our case an aggressive surgical strategy with total abdominal hysterectomy, bilateral salpingoophorectomy, pelvic and paraaortic lymph node dissection, omentectomy, appendectomy and optimal debulking was followed. Postoperatively the patient received 7 cycles of chemotherapy. The published data suggest that most of the recurrences are low grade tumors involving pelvic and abdominal structures and can be salvaged surgically. The clinical and radiologic manifestation of recurrence in our case was that of multifocal lymphadenopathy and showed partial response to chemotherapy. Lymphatic diffusion of ovarian cancer is usually retained to the pelvic and para-aortic lymph nodes.

Our case is consistent with sporadic reports suggesting that extra-abdominal lymphatic dissemination is possible although very rare.

To our knowledge this is the case with the longest time interval prior to recurrence and illustrates that optimization of surveillance strategies and lifelong follow up is critically important for the patients with low malignant potential ovarian tumors. Patients with borderline tumors are usually young and they are at risk for late recurrence which may not be amenable to surgery even when a radical surgical approach was followed at the initial diagnosis.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

References

Aure, J.C., Hoeg, K., Kolstad, P., 1971. Clinical and histologic studies of ovarian carcinoma. Long-term follow up of 990 cases. Obstet. Gynecol. 37, 1–9.

Burks, R.T., Sherman, M.E., Kurman, R.J., 1996. Micropapillary serous carcinoma of the ovary: a distinctive low-grade carcinoma related to serous borderline tumors. Am. J. Surg. Pathol. 20 (11), 1319–1330 (Nov).

Casey, A.C., Bell, D.A., Lage, J.M., et al., 1993. Epithelial ovarian tumors of borderline malignancy: long-term follow-up. Gynecol. Oncol. 50, 316–322.

Gershenson, D.M., Silva, E.G., Levy, L., et al., 1998. Ovarian serous borderline tumors with invasive peritoneal implants. Cancer 82, 1096–1103.

Kurman, R.I., Trimble, C.L., 1993. The behavior of serous tumors of low malignant potential: are they ever malignant? Int. J. Gynecol. Pathol. 12, 120–127.

Leake, J.F., Currie, J.L., Rosenshein, N.B., et al., 1992. Long term follow-up of serous ovarian tumors of low malignant potential. Gynecol. Oncol. 47, 150–158.

Lin, P.S., Gershenson, D.M., Bevers, M.W., et al., 1999. The current status of surgical staging of ovarian serous borderline tumors. Cancer 85, 905–911.

Taylor, H.C., 1929. Malignant and semimalignant tumors of the ovary. Surg. Gynaecol. Obstet. 48, 204–230.

Trimble, E.L., 1998. Management of borderline tumors of the ovary. In: Gershenson, D.M., Mc Guire, W.P. (Eds.), Ovarian Cancer: Controversies in Management. Churchill Livingstone, New York, NY, pp. 196–198.

Zanetta, G., Rota, S., Chiari, S., Bonazzi, C., Bratina, G., Mangioni, C., 2001. Behavior of borderline tumors with particular interest to persistence, recurrence, and progression to invasive carcinoma: a prospective study. J. Clin. Oncol. 19 (10), 2658–2664 (May 15).