Case Reports

Borderline tumor of the lymph node associated with bilateral serous borderline tumor of the ovary: Case report

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Summary

The pathological diagnosis of a patient who was operated on for ovarian cancer was serous borderline tumor of the ovary. At the same time, pathological examination of one of the paraaortic lymph nodes revealed borderline tumor of the lymph node. We also searched the literature associated with this case.

Key words: Borderline; Serous; Ovarian; Lymph nodes; Endosalpingiosis.

Introduction

The definition of "glandular inclusions of the lymph node" which is rarely seen even in busy gynecologic oncology centers, is also defined as endosalpingiosis, benign glandular inclusions, epithelial glandular inclusions or müllerian inclusion cysts (MIC) in the English literature. We will refer to these lesions as MIC in this report.

MIC are small glandular structures covered with müllerian-type epithelium. These cysts can be found coincidentally in histopathological examination of lymph node, omentum and peritoneal surface specimens of gynecologic oncology patients and the association between these cysts and the main tumor which indicates surgery is still controversial [1-3]. As is known, the type of adjuvant therapy is indicated by the spread of the tumor which also determines the plan of management. If these cysts which are found coincidentally in lymphadenectomy specimens are accepted as benign, no additional treatment is required, but if they are accepted as metastasis of the primary tumor, then radiotherapy or chemotherapy must be added to the management plan as an adjuvant therapy.

We report a case of bilateral serous borderline tumor of the ovary with a primary borderline tumor of the lymph node.

Case

A 51-year-old, married, nulliparous woman with the complaint of abdominal distension was referred to our hospital with a diagnosis of bilateral pelvic masses. The initial gynecologic examination revealed myomatous uterus and right and left adnexal masses, which were 15 cm and 6-7 cm in diameter, respectively; the one on the right was cystic.

Ultrasound examination demonstrated a right adnexal mass which was 13 x 15 cm and had dense papillary solid components, but mostly cystic, and a left adnexal mass which was 7 x 5 cm with similar internal echo characteristics. Abdominopelvic computerized tomography was also performed which revealed similar findings to the ultrasound examination and the right adnexal mass was reported to have malignant characteristics. Although the CA-125 level was found to be normal (28.7 U/ml), the characteristics of the masses on pelvic examination together with the imaging findings were suspicious of malignancy and it was decided to operate on the patient.

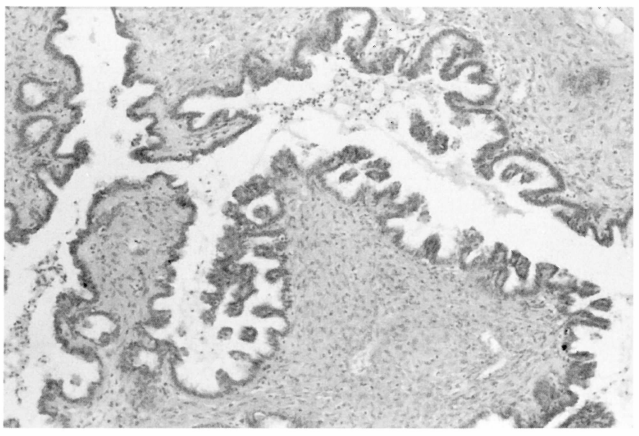
Preoperative routine laboratory tests were completed and endometrial biopsy was performed which showed no abnormal results. Fecal occult blood tests, which were done to rule out gastrointestinal malignancy, were negative three times. The patient was operated on by two of the authors of this report (GT, CB).

A median incision beginning from the xyphoid process extending to the symphysis pubis was made. A survey of the patient's pelvis and abdomen revealed no ascites and normal anatomy except myomatous uterus, bilateral ovarian masses and bilateral edematous fallopian tubes. The right ovarian mass was 15 x 15 x 15 cm having solid and cystic components, and the left ovarian mass was 5 x 7 x 7 cm without any cystic components. Initially the bilateral ovarian masses were extirpated, and sent to frozen section for pathological examination. While waiting for the results of the frozen section, total abdominal hysterectomy was performed. Then, frozen section revealed bilateral borderline serous ovarian tumors. Bilateral pelvic paraaortic lymph node dissection and infracolic omentectomy were performed in accordance with our clinic's policy.

The patient was discharged on the seventh postoperative day without any complications. Postoperative pathological examination confirmed the diagnosis of bilateral serous borderline ovarian tumor (Figure 1). The pathological examination revealed a normal uterus and omentum and 66 of the 67 lymph nodes were reactive. However one of the paraaortic lymph nodes was reported as having focal endosalpingiosis which showed papillary proliferation with minimal nuclear atypia and increased mitotic activity. Further examination of this focus was done and it was reported to be the primary borderline tumor of the lymph node, not metastasis of the ovarian tumor (Figure 2).

In the management of this patient, who was determined to be FIGO Stage IB, no further treatment was given and a routine follow-up appointment was given.

Revised manuscript accepted for publication March 9, 2004



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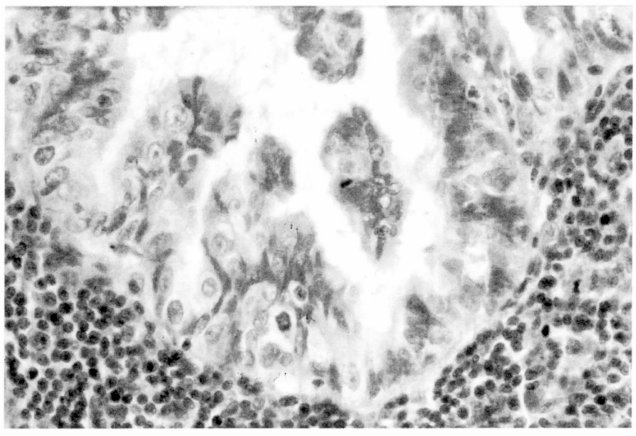

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Figure 1. — Serous borderline ovarian carcinoma found in both ovaries (Hematoxylin eosin x 40).
Figure 2. — Borderline tumor of the lymph node dissected from the paraaortic region. Papillary proliferation with minimal nuclear atypia and increased mitotic activity can be seen (Hematoxylin eosin x 40).

Discussion

The definition of endosalpingiosis, the first name given to these müllerian inclusion cysts, continues to be controversial for both pathologists and gynecologic oncologists. Müllerian inclusion cysts (MIC) are small müllerian-originated glandular inclusions that can be found coincidentally on peritoneal surfaces, omentum or lymph nodes of patients who are operated on for other indications [1-3]. The incidence in surgical series is reported to be 5%-20% [4]. The formation theory of endosalpingiosis has been accepted as spread of tubal epithelium to the peritoneum and then migration to the regional lymph nodes [13]. Some other authors explain the pathophysiology of endosalpingiosis as transportation of endometriosis to the lymph nodes and do not consider the presence of a stromal component an important finding [5-7]. In another theory, it was suggested that these lesions are derived from coelomic metaplasia of the peritoneum [8]. As a result, there are different terms as endosalpingiosis, benign glandular inclusions, epithelial glandular inclusions or müllerian inclusion cysts in the English literature.

Some authors advocate MIC as well-differentiated lymph node metastases [1-3, 9-12]. If those are evaluated for the gynecologic oncology cases, many authors accept these lesions as lymph node metastases, although most recent studies in the literature report them as benign glandular lesions [13].

Serous borderline tumors usually seen in the ovary are described microscopically as bulbous papillary serous structures changing from smooth to rough appearing surfaces and these lesions are derived from stratified epithelium that covers a fibrovascular stroma [1-3]. Nuclear atypia can be seen in changing levels and they can have mitotic figures in different ratios. They can also have psammoma bodies. The most important diagnostic criteria for borderline tumors is the absence of stromal invasion, but the diagnosis of peritoneal borderline tumors is more difficult because cytological atypia is also needed to diagnose these tumors.

To differentiate endosalpingiosis from borderline tumor is very difficult even for an experienced pathologist. In the literature terms are not clearly defined and have been used one for another. Some authors, who want to make these definitions more clear, categorize these lesions into three groups as "endosalpingiosis", "MIC" and "serous borderline tumor" [13]. The characteristics of borderline serous tumors have been described above. The difference between endosalpingiosis and MIC is not described here because further information about these lesions is not the purpose of this article.

In the literature, there are reports that investigate the evidence of MIC and report the incidence in the lymphadenectomy specimens of gynecologic oncology patients. In one of these articles, MIC is defined as metastases or implants of ovarian tumors and reported to accompany mostly these tumors. This association is defined by a theory called "area effect" and MIC in the lymph node and neoplasia in the ovary are accepted as synchronously appearing pathologies which are induced by the same proliferative stimulus that causes tumoral changes in the ovary [13]. There are a few reports that question the association between MIC and serous borderline tumors of the ovary. One of these articles which is similar to our case, reports that the only variable which can determine the recurrence in serous borderline tumors of the ovary in Stage I patients is the presence of MIC [14].

In patients with serous borderline ovarian tumors, the histopathology of MIC confined to the lymph nodes or peritoneal surfaces is not different from similar lesions seen in the ovary. This suggests that this lesion can be a metastasis or implant derived from the ovary [15] and if this is true, we must accept the lesion in the lymph node as in our case, as a metastasis.

The thought of MIC as metastases derived from the ovary is supported by the occurrence of MIC in paraaortic lymph nodes and by the fact that ovarian lymphatics drain directly to the paraaortic lymph nodes.

In most recently published pathology textbooks, it has

been suggested that, if there are cellular changes diagnosed as borderline tumor in benign endosalpingiosis foci in lymph nodes of patients with serous borderline tumor of the ovary, they can be diagnosed as primary borderline tumor of the lymph node [16, 17]. In some reports in the literature, müllerian inclusion cyst definition is used instead of endosalpingiosis, and it is suggested that they be accepted as metastatic lesions if they have any neoplastic cellular changes [13].

In the management of our case, we accepted that the tumor was restricted to the ovary and the tumoral change in the lymph node was the primary borderline tumor of the lymph node, as our pathologists reported. The patient received no further treatment and decided on follow-up.

The staging of our case is controversial and we still have some questions in our mind. Was there a metastatic tumor or two synchronous primary tumors in this patient? If there were synchronous tumors, then in which classification should borderline tumor of the lymph node be included?

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