ORIGINAL RESEARCH

ACUTE ABDOMEN DUE TO BILATERAL OVARIAN METASTASES FROM PRIMARY CERVICAL SQUAMOUS CELL CARCINOMA: A CASE REPORT

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ABSTRACT

Background: Metastasis from early stage squamous cell carcinoma of the cervix to the ovary is a rare occasion. We present a case of early stage cervical squamous cell carcinoma with bilateral ovarian gross metastases.

Case: A 43 year old female with bilateral adnexial mass and in situ cervical carcinoma underwent laparotomy for acute abdomen. Pathological report demonstrated endocervical occult squamous cell carcinoma. The actual stage of the malignancy was IVA because of bilateral ovarian metastasis and positive abdominal cytology due to spontaneous rupture of the ovarian lesions.

Conclusion: In this report, importance of preoperative complete evaluation of a patient with known cervical carcinoma is emphasized.

Keywords: Cervix, squamous cell carcinoma, ovarian metastasis, bilateral

INTRODUCTION

Metastasis from early stage squamous cell carcinoma of the cervix to the ovary is a rare occasion. The risk for ovarian metastasis in stage IB squamous cell cancer is less than 1% 1. There appears to be a risk of 1-2% for metastatic spread to the ovary with early stage operable cervical adenocarcinoma 1. Metastatic spread may occur with increasing frequency in more advanced lesions, but in general cervical cancer metastasis to ovary is more common in patients with bulky tumors or locally advanced disease 1. Tabata et al published their series of autopsy data for advanced bulky epidermoid cancer, and they reported that the incidence of ovarian spread was 17.4% 2.

We present a case of early stage cervical squamous cell carcinoma with bilateral ovarian gross metastases hospitalized for acute abdomen and peritonitis due to rupture of the both lesions.

CASE PRESENTATION

A 43 year old gravida 1 para 1 female was referred to Marmara University Hospital Gynecologic Oncology Clinic with the complaint of abdominal distention. She had never received hormonal treatment and had no family history of any malignant disease. On the first visit she had a Pap smear consistent with HSIL, and a pelvic examination revealed bilateral, mobile, semisolid adnexal mass. She underwent an evaluation consisting of transvaginal ultrasonography (TVUSG), colposcopy, endocervical curettage (ECC) and colposcopic guided biopsies. Bilateral ovarian 12x12,5x12,2 cm and 15x16,3x17 cm

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measured solid-cystic masses were confirmed by TVUSG. ECC and colposcopic biopsies reported in situ squamous cell carcinoma of the uterine cervix. Laboratory test results, including those from complete blood count, biochemical profile, and liver function tests were normal. Ca125 was 245 U/ml (normal range is 0-35 U/ml). After taking an informed consent, she was hospitalized and elective laparotomy was scheduled with an indication of bilateral adnexial mass and in situ cervical carcinoma. During preoperative work-up, she complained of lower quadrant pain. On physical examination she had abdominal defence, rebound and culdocentesis performed after detection of fluid in cul-de-sac by TVUSG, revealed bloody fluid. She underwent an emergent laparotomy. During exploration it was noted that bilateral adnexial masses were ruptured. Both ovaries were sent for frozen section, the result was reported to be a nonkeratinized squamous cell carcinoma with positive abdominal cytology. Total abdominal hysterectomy, pelvic and para-aortic lymph node dissection and omentectomy was performed.

The final pathological report demonstrated endocervical occult squamous cell carcinoma with 1mm depth of invasion (Figure 1), no parametrial invasion and no metastases of the lymph nodes were detected.

There was lymphovascular space involvement (LVSI). Endometrium was otolytic, and no malignancy was noted on omentum. Although the cervical lesion was referred to be a stage IA1 squamous cell carcinoma preoperatively, the actual stage of the malignancy was corrected to be IVA because of bilateral ovarian metastases (Figure 2) and positive abdominal cytology due to spontaneous rupture of the ovarian lesions. The patient received postoperative brachytherapy, and intraperitoneal chemotherapy was scheduled.

Figure 2: Microscopic section of the ovarian tumor. Solid neoplastic islands composed of cells with hyperchromatic nuclei and scant indistinct cytoplasm. Necrosis is abundant. (HSE x 100)

DISCUSSION

In advanced cervical disease, ovarian metastases are more likely than in early-stage cervical cancer. The incidence of ovarian metastases in subjects with squamous carcinomas of the cervix in gynecologic oncology group study was 0.5% 3, a percentage identical to reported by Baltzer et al., 0.5% 4 and Shingleton et al., 0.4% 5 previously. This is a unique report of adnexial mass as the presenting symptom for cervical squamous cell carcinoma stage IA and bilateral gross ovarian metastasis at the time of initial surgery. Simultaneous ovarian metastasis detected pre/peri-operatively from early cervical squamous cell carcinoma was reported to be rare, however all of those lesions were either associated with extracervical bulky disease, or were microscopic lesions, most unilateral, confined to the ovarian parenchyma defined by postoperative pathological examination (Table 1). Five of the six reported cases of early stage cervical squamous cell carcinoma metastases to ovary are recognized postoperatively after ovarian conservation 1,6-9. The remainder, reported by Rasmussen et al, was a case of stage IB cervical squamous cell carcinoma metastatic to a borderline cystadenoma of the ovary, with no clinical manifestations and microscopic metastases were detected on the pathological specimen 6.
Table 1: Published cases of ovarian metastases from early stage squamous cell carcinoma of the uterine cervix.

<table>
<thead>
<tr>
<th>Author</th>
<th>No. of patients</th>
<th>Histology</th>
<th>Stage</th>
<th>Ovarian Metastases Diagnosed</th>
<th>Clinical Manifestations</th>
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<tr>
<td></td>
<td></td>
<td>Adeno</td>
<td>Squamous</td>
<td>Adenosquamous</td>
<td>Pre/peri operative</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>carcinoma</td>
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<tr>
<td>Powell</td>
<td>16</td>
<td>1</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Mann</td>
<td>15</td>
<td>2</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Rasmussen</td>
<td>6</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>IB</td>
</tr>
<tr>
<td>Cassidy</td>
<td>9</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>IB</td>
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<tr>
<td>Morice</td>
<td>7</td>
<td>2</td>
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<tr>
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<td>1</td>
<td>-</td>
<td>1</td>
<td>IB1</td>
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<tr>
<td>Atamdede</td>
<td>8</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>IB</td>
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<tr>
<td>Zanetta</td>
<td>17</td>
<td>1</td>
<td>-</td>
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<td>IA2</td>
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NS: Non-specified
* Virilizing mass

Table 2: Published series of ovarian metastases from carcinoma of the uterine cervix

<table>
<thead>
<tr>
<th>Author</th>
<th>No. of patients</th>
<th>Histology</th>
<th>Incidence (%)</th>
<th>Ovarian Metastases</th>
<th>Stage</th>
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<td>Other</td>
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<td>8</td>
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<td>1</td>
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<tr>
<td>Toki</td>
<td>10</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>-</td>
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<tr>
<td>Young</td>
<td>13</td>
<td>12</td>
<td>-</td>
<td>4</td>
<td>2</td>
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</table>

NS: Non-specified
Other: Small cell carcinomas and tumors with small cell or carcinoid components (4 cases), transitional cell carcinoma (1 case), undifferentiated carcinoma (1 case)
Other than case reports, there are published series regarding ovarian metastases of carcinoma of the uterine cervix (Table 2). Incidence of ovarian metastases increases with advancing stage of the carcinoma as demonstrated. Reports reveal an incidence of 0,19% and 17,4% ovarian metastases for stage IIb, and for stage Ib – III cervical squamous cell carcinoma, respectively 1,10. In early cervical carcinoma (stage 0 and IA), no recurrence has been seen regardless of histology in these series 2,3,10-13. According to their results Tabata et al., proposed that almost no ovarian metastasis occurs in early cervical carcinoma 2,7. and Toki et al., proposed that ovarian preservation is fairly safe in squamous carcinoma, but not in pure adenocarcinoma of the uterine cervix 10. Treatment of lower-stage lesions is complicated by a lack of agreement on approaches in the literature. In our experience, if there is LVSI, extrafascial or modified radical hysterectomy is often the preferred method of therapy because normal vaginal function can be maintained and ovarian function can also be preserved. McCall et al demonstrated that the risk of ovarian involvement in early squamous lesions of the cervix is low and that gonadectomy is not required in the absence of visible metastasis 14. However, Mann et al challenged this practice, suggesting that its safety had not been established, especially in non-squamous lesions of the cervix 15. In our practice, ovarian preservation is not performed due to the current conflicts in literature, unless the consent of the patient is present to conserve fertility. Various patterns of spread is recognized for cervical cancer. It has been demonstrated that deep stromal invasion is an independent risk factor for ovarian metastasis 12. Although the presented case seems to be a bulky cervical cancer with intraperitoneal involvement, the conflicting point resides in the occult local, hematogenous and moderate LVSI of the primary lesion. It is confusing in the present patient that although the bilaterality and evidence of LVSI, confirmed by final pathological report, suggests advanced stage extracervical disease, no invasion but positive cytology was detected which is due to the unfortunate spontaneous rupture of the ovarian lesions. Long-term follow up of the present patient would be required to determine the accurate pattern of spread since ovarian lymphatic involvement with the absence of pelvic and paraaortic lymph node metastases is extremely rare, but unexpected rupture of the ovarian lesions certainly adversely effects the follow-up. Moreover, the need of intraperitoneal chemotherapy, adjuvant for current treatment, would be an issue of concern and further consideration if the ovarian lesions were excised “capsule intact”.

The preoperative complete evaluation of a patient with known cervical carcinoma of any histologic type is crucial, and although rare, ovarian metastases from early stage cervical malignancies should be considered in differential diagnosis of adnexial lesions in such patients. Moreover the presented case brings about the need for development of new therapeutic and follow-up modalities due to the fact that previously unknown patterns may be involved in spread of cervical cancer. Ovarian metastases from early stage cervical carcinoma are rare and the presented case cannot justify gonadectomy in especially young women with future fertility concerns.

REFERENCES