Primary Ovarian Cancer Presenting With Axillary Lymph Node Metastases: A Report of Two Cases


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Key words. Ovarian carcinoma; axillary metastasis.

Abstract. Background: Axillary lymph node metastasis of primary ovarian cancer is rare. Case 1: A 74-year-old woman presented with a 2 × 2 cm hard, mobile mass in the right axilla. She had a history of stage IIIA epithelial ovarian cancer which was diagnosed and treated four years previously. A right lateral wall involvement of the rectum was detected in abdominal tomography. A right axillary lymph node dissection and low anterior resection of the rectum were performed. Histopathologic examination showed ovarian epithelial serous papillary adenocarcinoma metastases to axillary lymph node and the rectum. Case 2: A 38-year-old woman presented with a 3 × 2 cm hard, mobile mass in the right axilla. She was treated surgically and by systemic chemotherapy with a diagnosis of stage IIIA epithelial ovarian cancer two years previously. A trucut biopsy was taken from the enlarged axillary lymph node, and histopathological examination revealed metastases of primary ovarian cancer. Complete axillary lymph node dissection was performed and metastases of ovarian papillary adenocarcinoma were found in 11 of the 30 lymph nodes. Conclusion: Supradiaphragmatic lymph node involvement of primary ovarian cancer is very rare. We report here two cases presenting with axillary metastases of ovarian cancer.

Introduction

Ovarian cancer is the fifth most common of all women’s cancers. The life-time risk of ovarian cancer is 1.4% (1). Patients with Lynch 2 syndrome have a familial predisposition to ovarian, endometrial and colon cancer. The risk of ovarian cancer also increases in women with a family history of ovarian or breast cancer. Most patients have local or systemic metastases at the time of diagnosis (1, 2). Ovarian cancer most commonly spreads transperitoneally to the neighboring organs, such as the rectum, the sigmoid colon and the urinary bladder. In addition to direct and peritoneal invasion, lymphatic and haematogenous dissemination are also common. The most common sites of visceral metastases are the liver and the lungs, whereas the most frequent sites of lymph node involvement are intra-abdominal and para-aortic lymph nodes. Supradiaphragmatic lymph node involvement is very rare (3, 4). In the literature, few cases of axillary lymph node involvement from ovarian cancer have been reported (5, 6). In this study, we report two cases diagnosed with axillary lymph node metastases of primary ovarian cancer.

Case reports

Case 1

A 74-year-old woman with a four year history of stage IIIA serous papillary adenocarcinoma of the ovary presented in our clinic complaining of a mass in her right axilla. Her previous treatment for ovarian carcinoma included total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy, and pelvic lymphadenectomy followed by adjuvant chemotherapy of paclitaxel and carboplatin for 6 sessions. On physical examination, there was only a 2 × 2 cm firm, mobile mass in the right axilla. Mammography and ultrasonography were normal, except for the presence of a right axillary mass. Computed tomography of the thorax was normal, except for an enlarged lymph node in right axilla. Abdominal tomography revealed a mass and thickening at the right lateral wall of rectum. Flexible sigmoidoscopy revealed tumoral involvement of the rectal mucosa and histopathologic examination of endoscopic rectal biopsy showed ovarian carcinoma metastases. Low anterior resection of the rectum and colorectal...
anastomosis were performed followed by right axillary lymph node dissection. The pathologic report revealed that both of the lesions in the axilla and rectum were the metastases of primary serous papillary adenocarcinoma of the ovary. The immunohistochemical expressions of oestrogen and progesteron receptors in the axillary mass were found to be negative. Postoperative systemic chemotherapy of paclitaxel and carboplatin was given for 6 sessions. No local or systemic recurrence was detected during a two-year follow-up.

Case 2
A 38-year-old woman with a two-year history of stage IIIA ovarian epithelial cancer presented with a mass in her right axilla. Her surgical history included total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy and pelvic lymphadenectomy, following neoadjuvant chemotherapy of paclitaxel and carboplatin after the diagnosis of ovarian cancer two years previously. She further received adjuvant chemotherapy including paclitaxel and carboplatin after the surgery.

Her physical examination revealed a $3 \times 2$ cm hard, mobile mass in the right axilla. The findings of the mammography, ultrasound, and MRI of the breast and in the CT thorax and CT abdomen were found to be normal with the exception of enlarged lymph nodes in the right axilla. Her CA-125 level was increased from 34 ng/ml to 98 ng/ml before surgery. A tru-cut biopsy of the lesion was done and the histopathologic examination was consistent with primary ovarian cancer metastasis. A complete axillary lymph node dissection was performed and metastasis of ovarian papillary adenocarcinoma was found in 11 of 30 lymph nodes (Fig. 1, 2). The oestrogen and progesteron receptors were found to be negative in the lymph node metastases. Adjuvant chemotherapy was given after surgery. No further recurrence was observed in this patient during a 12-month follow-up period.

Discussion
Ovarian cancer is a major cause of cancer deaths in women, usually presenting with diffuse abdominal dissemination. Even though abdominal lymph node metastases are common, axillary lymph nodes are rarely involved in ovarian cancer (1, 5-8). DVORETSKY et al. found a high frequency of metastatic lesions in an autopsy series of 100 patients treated for ovarian cancer (9).

The most common metastatic sites of ovarian cancer are abdominal (47%), para-aortic (38%), mediastinal (29%), and pelvic (17%) lymph nodes. However, supraclavicular (4%) and inguinal (3%) lymph nodes are occasionally involved (3, 4). Early stage ovarian cancer is usually asymptomatic, whereas the intraperitoneal spread of disease produces symptoms such as abdominal pain, anorexia, distention of the abdomen and ileus. Parenchymal metastases were detected at a frequency less than 5% at the time of diagnosis. The most common metastatic sites of visceral involvement are liver (45%), lung (39%), pancreas (21%), spleen (15%), bone (11%), kidney (10%) and brain (6%) (9). The incidence of positive para-aortic lymph nodes was found to be 42% and 67% in patients with stage III and IV disease, respectively (3).

A case with ovarian carcinoma metastatized to the breast was first reported by SITZENFREY in 1907 (10). SANDISON (11) examined 1723 cases with breast tumours and found only 7 cases with metastasis from extramammary sites to the breast. WALSH et al. (6) reviewed 76 cases with abnormal axillary adenopathy, which included 3 patients with extramammary cancer and
3 patients with unknown primary tumour site. Axillary metastases of ovarian carcinoma are usually associated with breast metastases, but they have been occasionally detected without breast involvement (12, 13). Since the histopathology of breast and ovarian cancer look very similar, the differential diagnosis might be difficult at the time of diagnosis of axillary lymph node. Therefore, history of previous ovarian or breast cancer is important.

Tumour markers may also be helpful in establishing the primary site of tumour origin (14). Gross cystic disease fluid protein-15 (GCDFP-15), a well-known marker of apocrine differentiation, has been reported as a highly specific and sensitive marker for breast cancer. Expressions of GCDFP-15 and oestrogen or progesterone receptors are important in distinguishing between the metastatic axillary lymph nodes as to whether they are derived from breast or ovary (15, 16). Even though histopathologic features of ovarian cancers were similar to axillary masses in our patients, we studied the receptor status of the axillary masses, which were found to be negative. Furthermore, anti-ovarian carcinoma antibody 125 (OC-125) is a murine monoclonal IgG1 antibody that was raised against a human ovarian serous cystadenocarcinoma cell line. Immunohistochemical studies using the monoclonal antibody OC-125 showed that 56 to 93% of the nonmucinous epithelial ovarian carcinomas expressed CA-125. A high sensitivity of CA-125 was reported (93%), whereas the specificity was found to be as low as 77% (17). CA-125 levels were found to be higher before surgery in one of the patients in the current study, favouring ovarian cancer as opposed to breast cancer in concordance with previous studies (18).

In conclusion, physicians should be aware of the existence of lymph node metastases in patients with primary ovarian cancer. When a patient presents with metastatic disease in the axilla, ovarian cancer should also be considered among the other cancer types that might present with lymph node metastases, to determine the origin of the malignancy, especially in patients with a history of recent ovarian cancer.

References