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Research Letter

Metastatic adenocarcinoma of left supraclavicular fossa from occult primary ovarian cancer

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Most of the metastatic cervical lymphadenopathy results from the upper aerodigestive tract [1]. Asymptomatic primary ovarian cancer in the presence of metastatic left supraclavicular lymph nodes is rare [2]. Whether to identify the primary tumor or to manage Stage IV ovarian cancer represents a clinical dilemma. We report a rare case of metastatic adenocarcinoma of the left supraclavicular fossa resulting from occult primary ovarian cancer.

A healthy 53-year-old menopausal woman, parity 2002, presented with a growing lump as large as $8 \times 6 \times 3$ cm in her left supraclavicular fossa; she had had the mass for 3 months, which on biopsy was diagnosed as a metastatic papillary tumor (Fig. 1A). She underwent panendoscopy (nasolaryngoscopy, bronchoscopy, gastroenteroscopy) and a series of imaging studies for primary malignancy, which demonstrated only lymphadenopathy in the left axillary region to the supraclavicular region (Fig. 2A). Finally, abdominal computed tomography showed a right pelvic mass measuring $13.5 \times 7.4 \times 10.5$ cm with a cystic component and enlarged lymph nodes from the para-aortic to paracaval space.

The patient had a gynecological oncology consultation and underwent exploratory laparotomy. The histopathology confirmed papillary serous cystoadenocarcinoma of both ovaries, coexisting with omentum cake and enlarged pelvic lymph nodes. The patient underwent a debulking operation with a total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy, and lymph node dissection. However, because of unresectable status of multiple tumor metastases to the para-aortic, axillary, and supraclavicular lymph nodes, the surgery was categorized as suboptimal. The final diagnosis was papillary serous cystoadenocarcinoma of the ovaries, International Federation of Gynecology and Obstetrics Stage IV (pT3bN1M1) (Fig. 1B). The patient underwent adjuvant chemotherapy with paclitaxel and paraplatin following the suboptimal debulking operation. The patient tolerated the chemotherapeutic regimens well; the tumor markers dropped to normal range after four courses of chemotherapy (Fig. 3). Magnetic resonance imaging also showed no evidence of lymphadenopathy in the supraclavicular region (Fig. 2B) after chemotherapy. Seven months later, she remained disease-free.

Metastatic cervical carcinoma of unknown primary origin accounts for approximately 3–5% of all head and neck cancers. Among these cases, metastatic adenocarcinoma is rarely identified, and attention should focus on diseases below the clavicles, including diseases of the lung, breast, lower digestive tract, and genitourinary tract.

Clinical surveillance should include medical history, physical examination, imaging, and panendoscopy. Fluorodeoxyglucose positron emission tomography is another alternative if the above surveys fail.

The subsequent treatment strategy depends on disease-specific prognostic factors. Although the most common site of extraperitoneal metastasis of ovarian cancer is malignant pleural effusion, the presence of metastatic supraclavicular lymphadenopathy is rare. In a series of 100 autopsies on women who died of ovarian carcinoma, the incidence of extra-abdominal lymphadenopathy in the supraclavicular lymph nodes was only 4% [3].

The mainstay of epithelial ovarian cancer treatment is surgical exploration with tumor debulking followed by chemotherapy; the amount of residual tumor is an important predictor of recurrence. A retrospective review conducted by Curtin et al [4] revealed that age less than 65 years and residual disease were independent predictors of outcome in 97 patients with Stage IV epithelial ovarian cancer.

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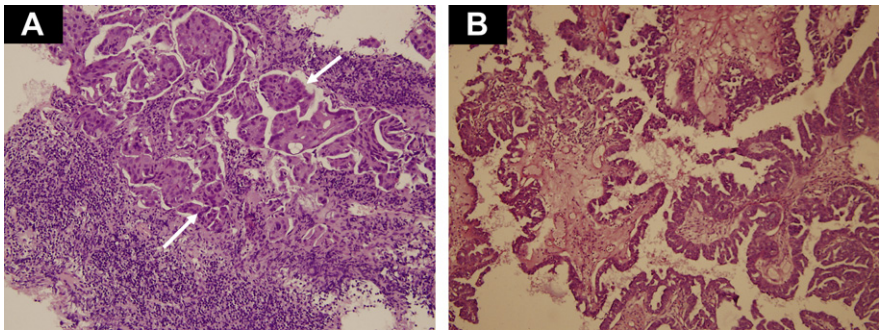

Fig. 1. (A) The histopathology of a metastatic lymph node (H&E, ×200). (B) The histopathology of papillary serous cystoadenocarcinoma of the ovary (H&E, ×200). Both show a picture of pleomorphic cells with papillary tumor growth. H&E = hematoxylin and eosin.

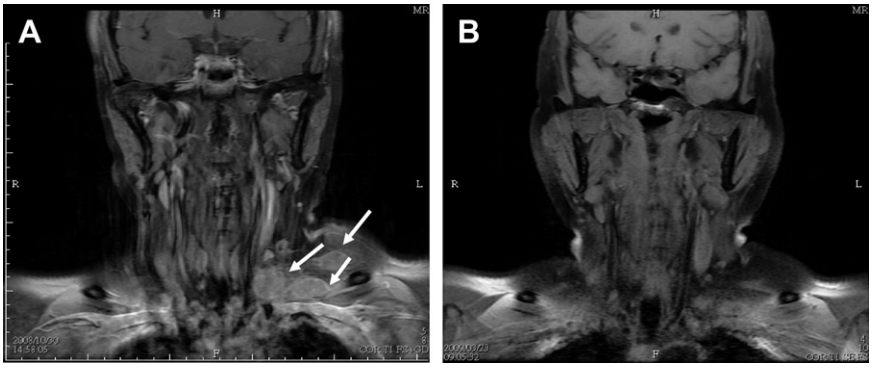

Fig. 2. (A) Left supraclavicular lymphadenopathy demonstrated by magnetic resonance imaging (arrow). (B) The lymphadenopathy disappeared after combined chemotherapy with paclitaxel and paraplatin.

Nevertheless, patients with supraclavicular nodal metastases have poor prognoses and low probability of optimal debulking. Many of these patients have associated comorbidities as a result of their advanced malignancy, which impact their surgical outcomes. For the sake of optimal resection with acceptable morbidity, Aletti et al [5] advocated using a triage system to identify high-risk patients with Stage IV epithelial ovarian cancer, including the presence of multiple liver metastases or the combination of extensive peritoneal disease and an American Society for Anesthesiologists classification of 3 or 4.

For patients with less than optimal cytoreduction and a significant adverse outcome, neoadjuvant chemotherapy or alternative combination management should be used.

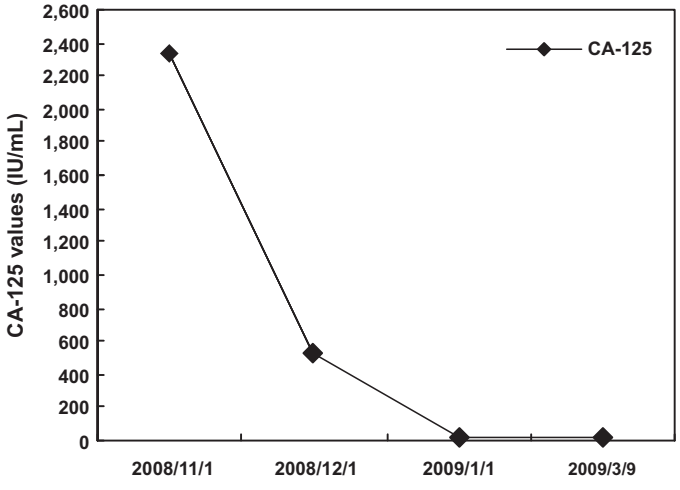

Fig. 3. Level of tumor markers declined after debulking surgery and three courses of chemotherapy.

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