



Enlarged Virchow's node as an initial complaint of serous ovarian adenocarcinoma

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Summary

Background: An enlarged Virchow's node or left supraclavicular lymph node is a classic precursor to the diagnosis of metastatic cancer, usually originating from an abdominal organ. It is rarely found in ovarian carcinoma. **Case report:** A 49-year-old woman presented a painless mass in her left supraclavicular fossa. A histopathological examination of the same mass was consistent with a serous adenocarcinoma of ovarian origin. The patient was initially asymptomatic, even with the disease in an advanced stage. Left supraclavicular adenopathy has not been previously reported as a presenting complaint of ovarian carcinoma. **Conclusion:** Ovarian carcinoma in contemporary with a Virchow's node is an isolated finding.

Key words: Virchow's metastasis; Ovarian carcinoma.

Introduction

Serous ovarian carcinoma, which represents 60% of ovarian epithelial carcinomas, is the most lethal gynecologic malignancy, with a five-year survival rate of less than 30%. It is frequently diagnosed at an advanced stage because the initial symptoms of bloating, fatigue, early satiety, and constipation are nonspecific; peritoneal metastasis occurs as an early event [1]. Furthermore, there is no available screening test to date. The most common pattern of spread involves seeding in the peritoneal cavity, and nodal spread via the pelvic and para-aortic nodes also occurs [2]. The disease may rarely spread to a supraclavicular lymph node. This report describes a 49-year-old Japanese woman with ovarian serous adenocarcinoma who initially presented an enlarged left supraclavicular node or Virchow's node. This is the first reported case of ovarian carcinoma in contemporary with supraclavicular lymphadenopathy.

Case Report

The patient, a 49-year-old female had consulted with her gynecologist for leg edema. Prior to this, her only complaint had been a painless left supraclavicular mass of two months duration. Pelvic magnetic resonance imaging (MRI) revealed a bilateral, multilocular ovarian tumor with multiple lymph nodes metastasis. This was confirmed with ultrasound and computed tomography (CT). CT images (Figure 1) show the bilateral ovarian tumors, multiple lymph nodes metastasis, bilateral hydronephrosis, ascites, and a 3 cm mass in the left supraclavicular fossa. There was no evidence of pulmonary, hepatic, pancreatic, splenic, adrenal, or brain metastasis. The patient's CA125 level was 387 u / ml. The biopsy of the supraclavicular lymph node showed metastatic adenocarcinoma. An exploratory laparotomy and bilateral salpingo-oophorectomy were performed. The right and left adnexa measured 5 x 3.5 x 3.5 cm and 7 x 3 x 3 cm, respectively. Both fallopian tubes included metastatic nodules. A 1.5 x 1 x 1 cm omental nodule was also

resected. The patient was diagnosed with Stage IV high-grade serous ovarian carcinoma (Figure 2). Systemic chemotherapy with conventional platinum and taxane chemotherapy (Carboplatin AUC5, Paclitaxel 175 mg/m²) was initiated. After six months, histopathological examination of another cervical lymph node biopsy was positive for poorly differentiated carcinoma. Treatment was continued with second line chemotherapy (CPT-11 or Gemcitabin) but to no avail; carcinoma progressed and the patient died from her cancer two years after diagnosis.

Discussion

An enlarged left supraclavicular lymph node (Virchow's node or Troisier's sign) leads to a diagnosis of metastatic cancer, usually originating from an abdominal organ [3]. Rudolf Virchow (1821-1902), a German pathologist, first described the gland and its association with gastric cancer in 1848 [4]. The French pathologist Charles



Figure 1. — CT image showing bilateral ovarian tumors.

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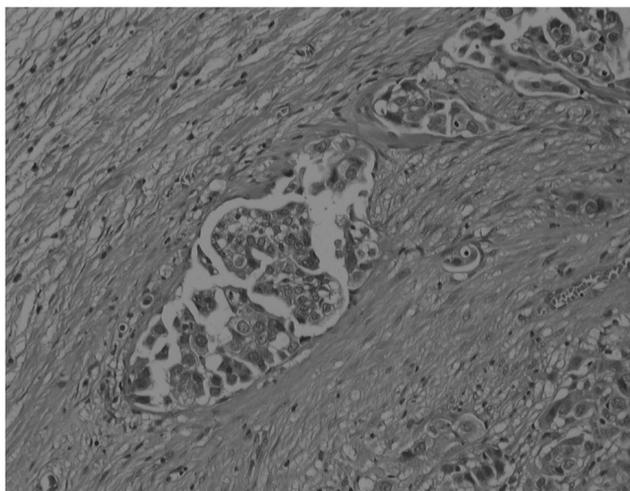


Fig. 2A

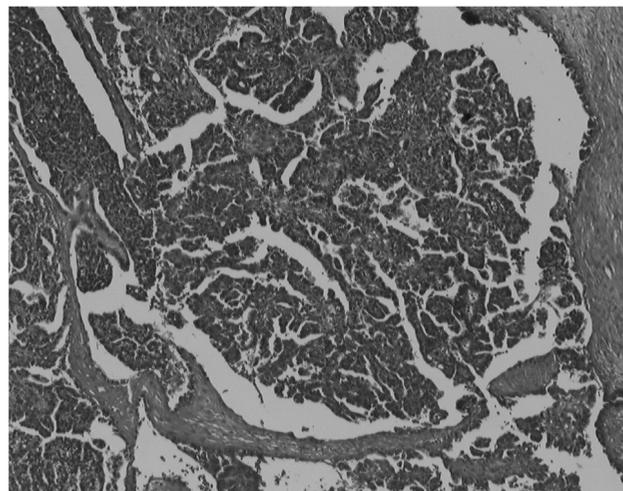


Fig. 2B

Figure 2. — Histopathological image. (A) Metastatic foci of adenocarcinoma in the left supraclavicular lymph node; (B) Solid nests of serous adenocarcinoma in the ovary.

Emile Troisier noted in 1889 that other abdominal cancers also spread to this node [5]. This node is on the left side of the neck where the lymphatic drainage of most of the body (from the thoracic duct) enters the venous circulation via the left subclavian vein. It is thought that the metastasis blocks the thoracic duct, which leads to the reflux of lymph into the surrounding nodes i.e. Virchow's node. Another explanation is that the Virchow's node corresponds to the terminal node along the thoracic duct and is therefore the end repository for metastatic nodal disease [6].

Malignancies of the abdominal viscera frequently remain asymptomatic until they reach an advanced stage. Gastric cancer, for example, is frequently asymptomatic even when metastatic. One of the first areas of metastasis for gastrointestinal (GI) tumors is the supraclavicular lymph node. In the present case, the patient was initially asymptomatic when she noted the enlarged supraclavicular lymph node. Unlike GI cancers, ovarian cancers only rarely present with isolated lymphadenopathy.

Ovarian serous carcinoma is the most common ovarian epithelial malignancy (60% of cases). There are two different types of ovarian serous carcinomas in terms of morphology and molecular genetics: low-grade serous carcinoma and high-grade serous carcinoma. The low-grade serous carcinomas account for about 10% of all ovarian serous cancers [7] and demonstrate a relatively indolent clinical course. The five-year survival rate is approximately 40%-56%. The more common high-grade serous carcinomas are extremely aggressive, with a five-year survival rate of 10%-20%. They constitute 90% of all serous carcinomas and often manifest at an advanced stage, with up to 85% of patients presenting widespread peritoneal metastases. Mediastinal and supraclavicular lymphadenopathy, and metastases to the brain at the time of initial presentation have been documented in rare instances [8].

Serous carcinomas are frequently characterized by vague, nonspecific symptoms that are frequently ascribed

to GI disorders, such as an irritable bowel. Even with a timely evaluation, most women are diagnosed with disseminated intra-abdominal disease. This is a reflection of the tumor's propensity to spread early during its course by seeding in the peritoneal cavity. Less common are lymphatic metastases and hematogenous spread is also rare. In early stage (Stage I) disease, a mobile but irregular pelvic mass can often be palpated through pelvic examination, especially if the tumor is more than five cm in size and has not protruded above the pelvic brim. As the disease spreads into the pelvic cavity, nodules may be found in the cul-de-sac, particularly through bimanual examination (Stage II). Ascites may occur in all stages, but become more evident when the tumor involves the upper abdomen (Stage III). The omentum is a frequent site of metastatic disease and its removal is recommended as part of the complete cytoreductive procedure. Pelvic and para-aortic lymph nodes are involved in approximately 40-70% of Stage III tumors. The malignant cells may spread via lymphatic channels that follow the ovarian blood supply along the infundibulopelvic ligament, terminating in the para-aortic lymph nodes to the level of the renal vessels. Other lymphatics pass laterally through the broad ligament and parametrium to the external iliac, obturator, and internal iliac nodal chains. Infrequently, metastases may also follow the round ligament to the inguinal nodes [9]. Finally, the disease may spread to the supraclavicular lymph nodes and into the pleura, causing a malignant effusion (Stage IV).

Survival of serous carcinomas is a function of disease stage. Five-year survival rates for early stage disease (Stage I or II) range from 80% to 95%, whereas patients with advanced disease (Stage III or IV) have lower survival rates of 10%-30% [10]. The present patient's disease course is in keeping with these statistics. The present case highlights an unusual presentation of ovarian cancer. The initial asymptomatic presentation of this patient emphasizes the need for an effective means of screening for this devastating malignancy.





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