

# Solitary axillary lymph nodal metastasis from primary ovarian cancer: an unusual presentation

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## Summary

**Background:** The most common sites of visceral metastases in ovarian cancer are the liver and lungs, whereas the most frequent sites of lymph nodal involvement are abdominal, para-aortic, mediastinal, and pelvic nodes. Peripheral isolated lymph node metastasis is extremely rare. **Case Report:** This case represents an ovarian cancer with large metastasis to the right axillary mass. A 79-year-old female presented with a palpable and visibly enlarged mass. A neck lymph nodal mass was found on the CT scan with biopsy showing metastatic carcinoma with morphology and immunophenotype of ovarian primary tumor. **Conclusions:** Axillary metastasis secondary to ovarian carcinoma is an infrequent clinical entity.

**Key words:** Axilla; Lymph node metastasis; Ovarian cancer.

## Introduction

Early diagnosis of ovarian cancer is frequently difficult because of vague abdominal symptoms at presentation and the lack of a specific screening test. In advanced disease, the main patterns of distant spread are exfoliation into peritoneal cavity, hematogenous (liver, lung, and lymphatic, mainly pelvic/para-aortic, but inguinal are also at risk via round ligament).

The authors present a case of a rare solitary metastasis of ovarian cancer in axillary lymph nodal area that is an infrequent clinical entity.

## Case Report

A 79-year-old female was presented initially to a local gynecologist, with a vague abdominal discomfort for five months duration. The patient had a medical history of hypertension and a negative family history of malignancies. A combined transvaginal and transabdominal US showed an ovarian enlargement, ascites, and enlarged regional lymph nodes. Laboratory examinations revealed an elevated serum level of CA-125 (96.05 U/ml; normal value < 35 U/ml). An abdominal MRI-scan was ordered that showed a right ovarian mass with ascites and obturator and internal iliac lymphadenopathy. Chest CT scan was normal. The patient underwent surgical staging with complete abdominal exploration, total abdominal hysterectomy, and bilateral salpingo-oophorectomy, omentectomy, random peritoneal and diaphragm biopsies, aortic and pelvic lymph node sampling, ascites' collection, and appendectomy. The patient was staged as

having Stage IIIC serous ovarian carcinoma. She received six cycles of adjuvant chemotherapy with taxane-carboplatin. She tolerated chemotherapy well and was on regular follow-up thereafter. The abdominal MRI-scan had demonstrated complete response to the disease. Two years later, she developed a painful right axillary mass that had appeared two months ago and had gradually increased in size. CT scan of the chest revealed the presence of only an axillar mass. In abdomen and pelvis CT scan there was no evidence of loco-regional recurrence or other distant metastasis. In addition, mammography was negative for breast cancer. A fine needle aspirate (FNA) of the lesion was done and a cytological diagnosis showing metastatic carcinoma with morphology and immunophenotype of ovarian primary tumor was rendered. The serum levels of CA-125 were equal to 51 U/ml. Bone marrow examination and FDG PET/CT were not performed. A complete cytoreduction was not feasible [1] and because of the local pain, radiotherapy to the involved right axilla was planned. A dose of 50 Gy was delivered in 25 daily fractions over five weeks (two Gy/fraction) with conventional two-dimensional-radiotherapy (AP-PA beam arrangement). Dermatitis grade 3 was the most important acute side effect that developed at the end of the treatment. After completion of radiotherapy there was symptomatic improvement in pain intensity. The patient answered a questionnaire regarding localized pain, using the Universal Pain Assessment tool and the 10-point scale in which 0 equals "no pain" and 10 equals "the worst pain possible" as well as the Activity Tolerance Scale, in which 0 equals "no pain" and 10 equals "bedrest required".

The patient appeared for follow up at regular intervals. Several chest CT and abdominal MRI were performed regularly but no recurrence was located during the first year. There was a partial response to radiotherapy according to the radiologic Response Eval-

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uation Criteria In Solid Tumors (RECIST) criteria. CA-125 levels at the most recent follow-up were in normal range (32 U/ml).

## Discussion

The occurrence of extra-abdominal metastases in ovarian carcinoma is unusual. The histological type and stage of tumor determines the rate and potential locations of lymph node metastases [2]. Takeshima *et al.* [3] reported that nodal involvement rate was lower in non-serous ovarian carcinoma. Isolated para-aortic nodal involvement was present in 23.3% (14/60) of patients with serous tumor and 4.1% (6/148) of those with non-serous tumor ( $p = 0.00002$ ). The most common type of ovarian malignancy metastasizing to the axillary lymph node is serous carcinoma [4, 5]. Isolated lymph node recurrence of ovarian cancer is a rare but not exceptional pattern of disease. Reviewing the literature, only nine cases have been reported [4, 6-8].

Legge *et al.* [7] in a retrospective study observed only a case within 11 years in their institution. According to the authors, the occurrence of isolated nodal recurrence represents a less aggressive pattern and can be related to the lymph node microenvironment, where cytokines and T-cells keep cancer cells in a relatively dormant state. They also found that a prolonged time to metastasis and a platinum-free interval were retained to have a favorable prognostic significance for post-relapse survival.

Recine *et al.* [4] had the experience of six cases. The authors demonstrated that serous carcinoma of the ovary with metastases to the axillary lymph nodes may be a potential pitfall. Its recognition from primary breast carcinoma is of great clinical importance because the treatment and prognosis differ. To support the evidence of a metastatic axillary lymphadenopathy from ovarian cancer, histological findings performed on axillary lymph nodes, such as presence of psammoma bodies and immunohistochemical tumor markers (OC-125, WT1) can play a crucial role in suggesting the correct origin of a metastatic adenocarcinoma when the clinical presentation is atypical [8].

The Risk of Ovarian Cancer Relapse (ROVAR) score is an algorithm used by Rizzuto *et al.* [8] to predict the risk of relapse after first-line treatment. The authors calculated the following four variables: FIGO stage, tumor grade, pre-treatment CA-125 level, and the presence of measurable disease on post-treatment CT scan and stratified the patients into low, intermediate, and high risk of relapse [9].

Optimal treatment for metastases to the axillary lymph nodes from serous carcinoma of the ovary is based on various factors, such as the general condition of the patient, disease-free interval, and response to chemotherapy. However, these factors should be more adequately evaluated through a multivariate analysis of a larger number of patients.

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