



# Rare recurrent ovarian cancer presented with solitary mediastinal lymph node involvement and diagnosed by transbronchial needle aspiration: a case report

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## Abstract

We report a case of ovarian cancer with post operative solitary mediastinal lymph node metastasis, which was diagnosed by transbronchial needle aspiration (TBNA). A 64 year-old female was referred to hospital with a complaint of menorrhagia. Serum CA125 titre was more than 500 U/mL. Surgical resection was undertaken based on MRI, suggesting it's an ovarian cancer. Subsequently, she underwent postoperative-chemotherapy and a follow-up. 2 years post operatively, the only clinical abnormality was a solitary enlarged mediastinal lymph node and increase in the levels of serum CA125. TBNA was performed, and cytology revealed an adenocarcinoma. We diagnosed the patient to recurrence of ovarian cancer, which exhibited solitary mediastinal lymph node enlargement.

**Keywords:** Ovarian cancer, mediastinal lymph node, enlargement, post operative recurrence, TBNA

## Introduction

Among the gynaecological malignancies, ovarian cancer is one of the neoplastic forms of cancer with very poor prognosis and lower rates of disease free survival. The rate of nodal involvement is important as there is a high prevalence of metastasis to both the pelvic and para-aortic lymph nodes. Because of it's rare solitary metastasis to the mediastinal lymph node, the gynecologists are quite unfamiliar with it's diagnosis based on a CT scan and a TBNA. It is important to avoid inaccurate staging and improper management, in support, complete lymph node dissection is proposed as part of surgical staging for ovarian cancer.

## Case report

A 64 year-old female was referred to hospital with a complaint of menorrhagia. A diagnosis of an ovarian lesion was made after B-ultrasound and magnetic resonance (MR) imaging. Serum CA125 titre was more than 500 U/mL. Based on the above examination and conclusion following procedures were performed. Laparotomy with total hysterectomy, bilateral salpingo-oophorectomy and partial omentectomy were performed. Histo-pathological report from the left ovarian biopsy revealed ovarian adenocarcinoma. Involvement of other sites was negative. Patient underwent adjuvant chemotherapy and was clinically disease free for 21 months after surgery. There was slight decrease in the serum CA125 titre till the 15<sup>th</sup> month of surgery (**Figure 1**).

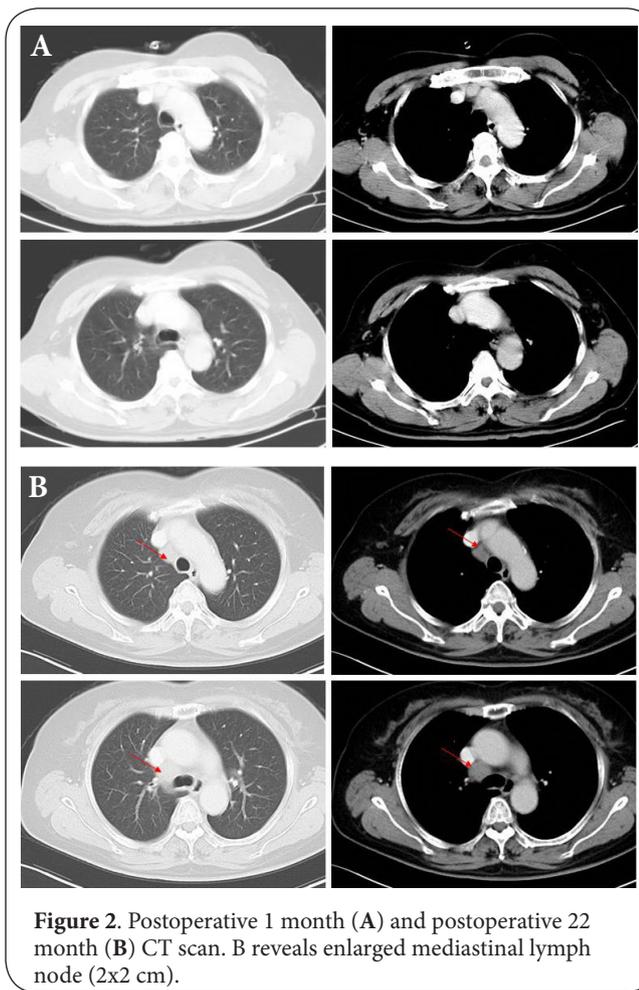
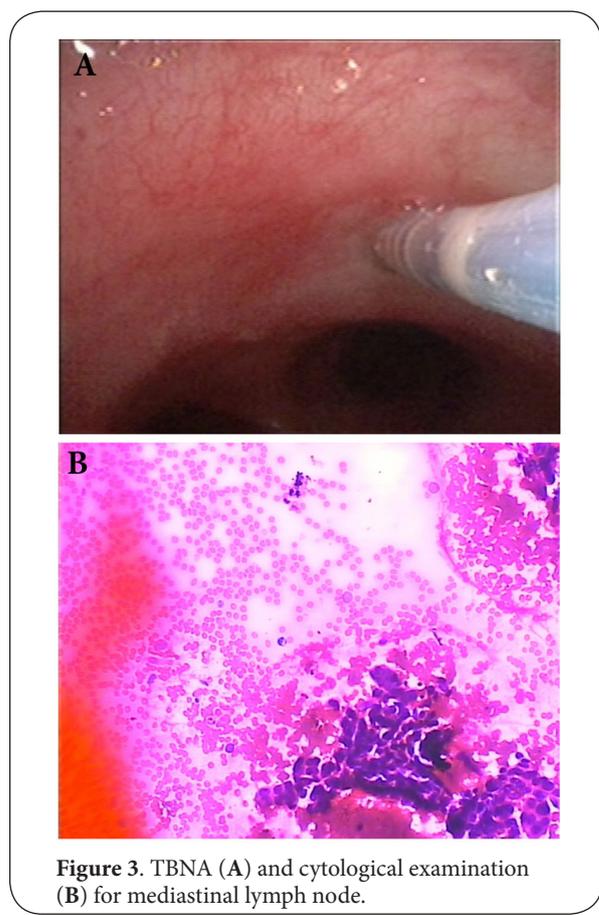
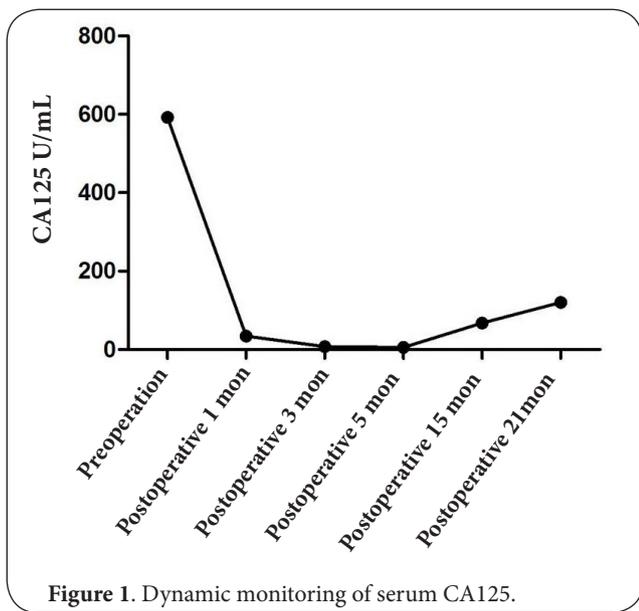
Although there was no evidence of recurrence for the primary tumor lesion, a solitary mediastinal lymph node enlargement

and normal shadows in the lung field was found 22 months postoperatively (**Figure 2**). Then, TBNA was performed which revealed that the metastatic development of ovarian cancer had occurred (**Figure 3**). Then, we diagnosed the patient to have postoperative recurrence of ovarian cancer, which only exhibited solitary mediastinal lymph node enlargement.

## Discussion

Recurrent ovarian cancer is a common clinical problem and the management of each patient must be individualized. As ovarian carcinoma usually presents with diffuse intraabdominal manifestations, bilateral pelvic and paraaortic lymphadenectomy, proper screening is necessary for evaluation and treatment of micro-metastasis, both in patients with unilateral and bilateral tumors. Metastasis of ovarian cancer outside of the peritoneal cavity is generally a rare presentation but is increasingly seen in patients who have recurrent disease, despite multiple therapies. It is important for radiologists to recognize the metastasis of ovarian cancer outside the peritoneal cavity in patients with recurrent ovarian cancer to facilitate an early diagnosis and treatment [1-2].

CA125 is currently the only tumor marker to have a validated role in the postoperative monitoring of ovarian cancer. The postoperative serum CA125 levels may be an important factor for the prediction of recurrence in patients with ovarian cancer. In addition to tumor marker CA125, a careful and thorough physical examination, assisted by modern imaging evaluation, is the best method for detecting early recurrence in patients with previously treated ovarian cancer.



ovarian cancer patient presented with inguinal lymph node metastases. This case illustrates a rare presentation of ovarian carcinoma, and underscores the need to consider ovarian carcinoma in the differential diagnosis of women with inguinal lymphadenopathy [3]. In addition, an ovarian cancer recurring solely as a mediastinal lymph node metastasis had not been previously reported.

Although a mediastinal lymph node enlargement usually indicates advanced disease, it does not always imply lung cancer [4]. Mediastinal lesions are often difficult to diagnose in clinical practice because of the unique anatomical position of the mediastinum, which makes the biopsy procedure difficult. TBNA can sample the enlarged mediastinal lymph nodes which are unreachable by conventional bronchoscopy. It is a relatively simple and safe method to see beyond the bronchial tree. The importance of TBNA in the diagnosis of lung cancer and mediastinal lymph node staging has been widely accepted [5-6]. However, only few studies have been conducted on the importance of TBNA in the diagnosis and differential diagnosis of mediastinal lesions in patient with recurrent ovarian cancer and without lung abnormalities[7-8].

The location of metastatic lymph nodes in ovarian cancer depend upon the histologic type. We diagnosed the patient to have recurrence of ovarian carcinoma in the mediastinal

A solitary recurrence from ovarian carcinoma is rarely diagnosed pathologically. For example, Ang,D reported a

lymph node based on a progressively rising CA125 titer, no evidence of recurrence for the primary tumor lesion, a CT scan of the lung and mediastinum, and TBNA biopsy and no endobronchial lesions. However, TBNA enables the accurate cytological diagnosis in the case, instead of pathological diagnosis. Further studies are needed to confirm the region of lymph nodes involved.

In conclusion, it is important for radiologists to explore and recognize mediastinal lymph node involvements in patients with ovarian cancer. It would also be desirable to develop minimally invasive methods of tissue diagnosis from lymph nodes as well as from the solid lesions in the mediastinum in ovarian cancer patients.

### Competing interests

The authors declare that they have no competing interests.

### Authors' contributions

Authors' contributions	CC	JJQ	GDM	HJA	ZYH
Research concept and design	✓	✓	--	✓	✓
Collection and/or assembly of data	✓	--	✓	--	✓
Data analysis and interpretation	✓	--	--	--	✓
Writing the article	✓	--	--	--	✓
Critical revision of the article	--	--	--	✓	✓
Final approval of article	✓	✓	✓	✓	✓
Statistical analysis	--	--	--	--	--

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