

Ovarian diffuse large B-cell lymphoma masquerading as an ovarian cyst following a primary CNS diffuse large B-cell lymphoma - a diagnostic dilemma

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Introduction

- Lymphoma of the ovary is an uncommon phenomenon that usually occurs as primary or secondary to disseminated disease, with primary ovarian lymphoma considered a very rare entity.¹
- Diagnosis is usually established after performing a biopsy, however, it is often confused with being a primary epithelial cancer of the ovaries with a surgical route undertaken initially instead of biopsy and chemotherapy.

Case Presentation

- A 45-year-old lady initially presented to the ED with complaints of headaches, confusion, and blurry vision.
- As part of her initial evaluation, she underwent an MRI of the brain that demonstrated a right frontal lobe lesion with an additional right temporal lobe enhancing focus. CT scan of abdomen/pelvis was negative for metastatic disease except for a small, chronic ovarian cyst.
- She underwent image-guided right frontoparietal craniotomy and resection of the tumor, and biopsy results revealed diffuse large B-cell lymphoma. Work up including whole-body PET scan, bone marrow biopsy, and CSF for malignant cells was negative. She was treated with chemotherapy and whole-brain radiotherapy.

- A few months after the radiation treatment patient sought a gynecology opinion due to recurrent abdominal pain and her history of an ovarian cyst (non-FDG avid on prior PET-CT). She underwent robotic-assisted right oophorectomy and the pathology result revealed DLBCL.
- The patient thereafter had further workup done including peripheral flow cytometry negative for monotypic B cell, negative bone marrow biopsy, and another PET-CT that again resulted in no evidence for FDG avid lymphoma.
- The patient was recommended for systemic chemotherapy along with a referral to the transplant team.

Discussion

- Our case illustrates some of the challenges facing clinicians in diagnosing ovarian DLBCL that can lead to poor prognosis due to erroneous diagnosis and inaccurate treatment strategies.
- This case was complicated by multiple factors including difficulty in establishing the diagnosis of primary vs secondary ovarian lymphoma, incidental finding of DLBCL after elective surgical removal of the ovarian cyst, and repeat negative PET scans which are otherwise considered a powerful modality to diagnose ovarian lymphomas.



Figure 1 MRI brain W (showing DLBCL), Figure 2 CT Abdomen/Pelvis W (showing ovarian cyst):

- Clinicians need to deploy a high degree of suspicion for timely and accurate diagnosis despite the difficult challenges faced, as treatment strategies (chemotherapy versus surgery) can differ and when chosen optimally can help improve prognosis.

References

Bhartiya R, Kumari N, Mallik M, Singh RV. Primary Non-Hodgkin's Lymphoma of the Ovary - A Case Report. *J Clin Diagn Res.* 2016;10(5):ED10-ED11. doi:10.7860/JCDR/2016/19346.7766¹