

A CASE REPORT

Ovarian Carcinoma with Two Discrete Histologies: The Rarest of Rare

Pavika Lal¹, Garima Gupta², Renu Gupta³, Chayanika Kala⁴, Sushmita⁵

HOW TO CITE THIS ARTICLE:

Pavika Lal, Garima Gupta, Renu Gupta et al. Ovarian Carcinoma with Two Discrete Histologies: The Rarest of Rare. Indian J Obstet Gynecol. 2025; 13(3): 119-124.

ABSTRACT

A 46-year-old postmenopausal woman presented with abdominal lump, weight loss, anorexia, and dyspepsia. Imaging revealed bilateral ovarian masses, and she underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy. Histopathological examination revealed a rare case of bilateral primary ovarian cancer with two distinct histopathologies: high-grade serous carcinoma in the left ovary and endometrioid carcinoma in the right ovary. The patient had a history of breast cancer and was suspected to have a genetic predisposition, but genetic screening was declined due to economic constraints. The case highlights the rarity of synchronous bilateral primary ovarian cancers and the importance of meticulous histopathological evaluation and multidisciplinary collaboration in management. The patient was referred for adjuvant treatment, and the case underscores the need for further research and personalized treatment approaches for such complex ovarian malignancies.

KEYWORDS

• Synchronous Bilateral Ovarian Cancer • Endometrioid Carcinoma • High Grade Serous Carcinoma

AUTHOR'S AFFILIATION:

¹ Associate Professor, Department of Obstetrics and Gynecology GSVM Medical College, Kanpur, Uttar Pradesh, India.

² Associate Professor, Department of Obstetrics and Gynecology, GSVM Medical College, Kanpur, Uttar Pradesh, India.

³ Professor and HOD, Department of Obstetrics and Gynecology, GSVM Medical College, Kanpur, Uttar Pradesh, India.

⁴ Associate Professor, Department of Pathology, GSVM Medical College, Kanpur, Uttar Pradesh, India.

⁵ 3rd year PG Resident, Department of Obstetrics and Gynecology, GSVM Medical College, Kanpur, Uttar Pradesh, India.

CORRESPONDING AUTHOR:

Sushmita, 3rd year PG Resident, Department of Obstetrics and Gynecology, GSVM Medical College, Kanpur, Uttar Pradesh, India.

E-mail: sushmita26796@gmail.com

➤ **Received:** 18.04.2025 ➤ **Accepted:** 05.06.2025



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Red Flower Publication and Open Access pages (<https://www.rfppl.co.in>)

INTRODUCTION

Ovarian cancer is the most lethal among all gynecological malignancies with advanced disease at the time of presentation due to nonspecific gastrointestinal signs and symptoms. Mostly ovarian cancers are epithelial in origin (80-90%) and sporadic in nature with only 5-10% being hereditary. The projected incidence of ovarian cancer in India was 43,886 for the year 2020 and is likely to be 49,644 in 2025.¹

There are two types of synchronous bilateral ovarian cancer (SBOC):

- Metastasis of unilateral ovarian cancer to the contralateral ovary which is a common phenomena.
- Bilateral primary ovarian cancers which is extremely rare.

To the best of the Pubmed research, only 12-14 cases of primary bilateral ovarian cancers have been reported. We hereby present the rarest case of bilateral primary ovarian cancer with **right sided endometrioid cancer and left sided high grade serous carcinoma histology.**

CASE REPORT

46 year old female postmenopausal (since 1 year) P3L3 was referred to our Department of Obstetrics and Gynecology, GSVM Medical College from our associated hospital that is JK Cancer Institute as a case of carcinoma ovary for surgical opinion. She presented with complains of abdominal lump for 2.5 months along with history of weight loss, anorexia and dyspepsia in the year 2023. There was no history of constipation or diarrhea although there was history of decreased appetite.

PAST HISTORY She was known case of **carcinoma breast right sided** for which she had received NACT (3 cycles) with carboplatin and paclitaxel f/b Modified Radical Mastectomy and Right sided axillary lymph node dissection 2 years back. The histopathological examination of right breast specimen along with axillary lymph node revealed it to be an **infiltrating ductal carcinoma (cribriform)**. Axillary lymph node showed 5/5 positive for metastasis with no extracapsular extension. Patient was then lost to follow up.

There was no significant family history

especially for breast and ovarian cancer.

EXAMINATION FINDINGS

- **General examination:** Patient was moderately anemic with no supraclavicular, axillary (left sided) and inguinal lymphadenopathy.
- **P/A:** There was an abdominopelvic mass filling the lower abdomen and reaching up-to the umbilicus, lower border of mass could not be felt therefore appear to be arising from pelvis. Side to side mobility was restricted with firm to hard in consistency. Clinically ascites was absent. There was no bruit over the mass and bowel sounds were present.
- **P/V/R:** The same mass was felt on bimanual palpation with restricted mobility reaching upto the umbilicus filling the pouch of douglus, firm to hard in consistency. Uterus could not be felt separately from the mass and bilateral fornices was occupied by the mass. Rectal mucosa was free.

INVESTIGATIONS

Following investigations were done preoperatively in order to evaluate the extension of disease so as to institute adequate management.

- Ultrasonography of whole abdomen and pelvis-Showed two well defined well circumscribed multiloculated cystic lesions of size 15*15 cm in right and 18*18 cm in left ovary respectively. Mild ascites was present. Spleen, gall bladder, liver, stomach were normal.
- CECT whole abdomen and pelvis-Liver/gall bladder/spleen/pancreas/kidney urinary bladder/uterus-showed no abnormality.

Right adnexas-large well defined multiloculated cystic lesion measuring 15.8*10.1*17cm arising from right adnexa with heterogeneously enhancing solid component measuring approx. 12.4*7.2cms with multiple enhancing septations.

Left adnexa-large well defined multiloculated lesion measuring 13.6*13.3*17cms from left adnexa with heterogeneously enhancing solid

component & multiple enhancing septation.

Omental Caking present. No paraaortic and pelvic lymphadenopathy.

- CA 125 levels - >600 U/ml.
- Left sided Sono mammography was normal.

PROCEDURE DONE

Patient was preoperatively diagnosed as bilateral malignant ovarian masses and after thorough and complete evaluation, the patient was found to be a potential candidate for surgery, after 2 units of blood transfusion.

She underwent exploratory laparotomy with midline incision extending from pubic symphysis to xiphisternum. The procedure done was total abdominal hysterectomy with bilateral salpingo oophorectomy with ascitic fluid cytology along with removal of deposits from bladder, peritoneum and pouch of Douglas was performed.

Total omentectomy was done.

PER OP FINDINGS:

- 2.5L ascites
- Liver, spleen, gall bladder, small intestine, large intestine were free of macroscopic disease. Omentum - no macroscopic disease.
- Sigmoid colon was adhered to the left adnexal mass.
- B/I huge large adnexal masses were present. On right side capsule was ruptured preoperatively. Uterus was normal in size, no disease was present on serosal surface. Deposits were present on the bladder and pouch of douglas.

All the samples were properly labelled and sent to pathology department for histopathological examination. Her post operative period was uneventful. She was transfused 2 units of blood and 4 FFP post-operatively. She was discharged in satisfactory condition. Patient was followed up with her histopathological report. She was referred back to JK Cancer Institute for adjuvant treatment.

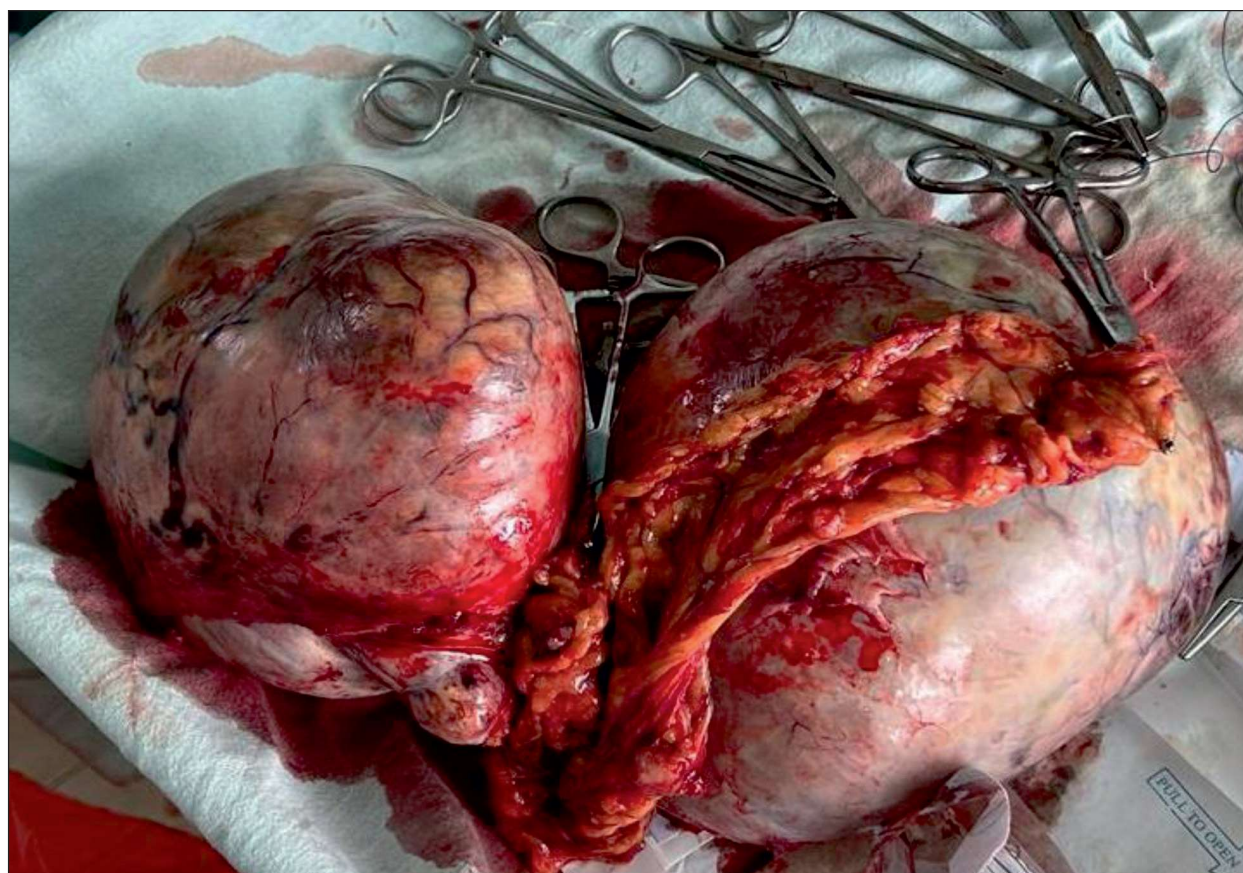


Figure 1: Bilateral ovaries with omentum

HISTOPATHOLOGICAL REPORT:**Gross morphology****Right Ovary**

15x14 cm

Partially cystic, partially solid

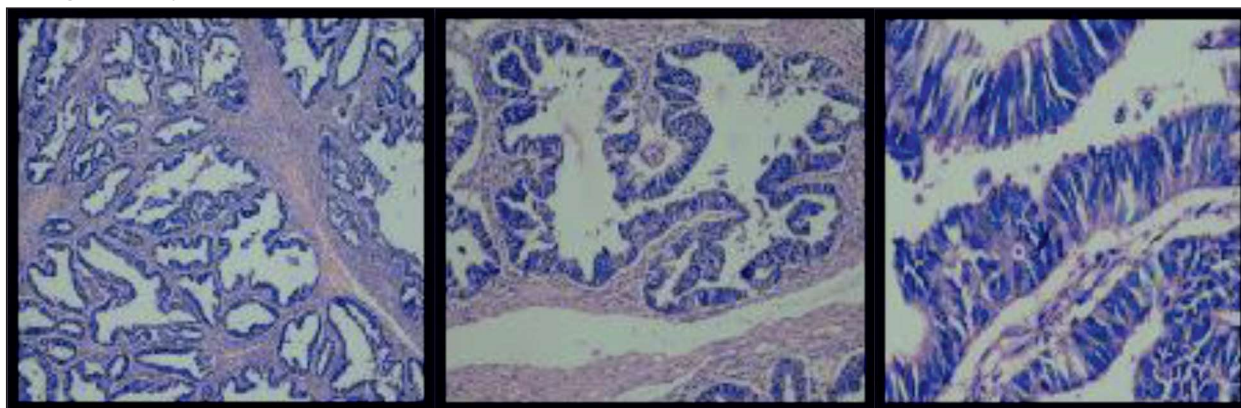
Left Ovary

16x14 cm

Partially cystic partially solid

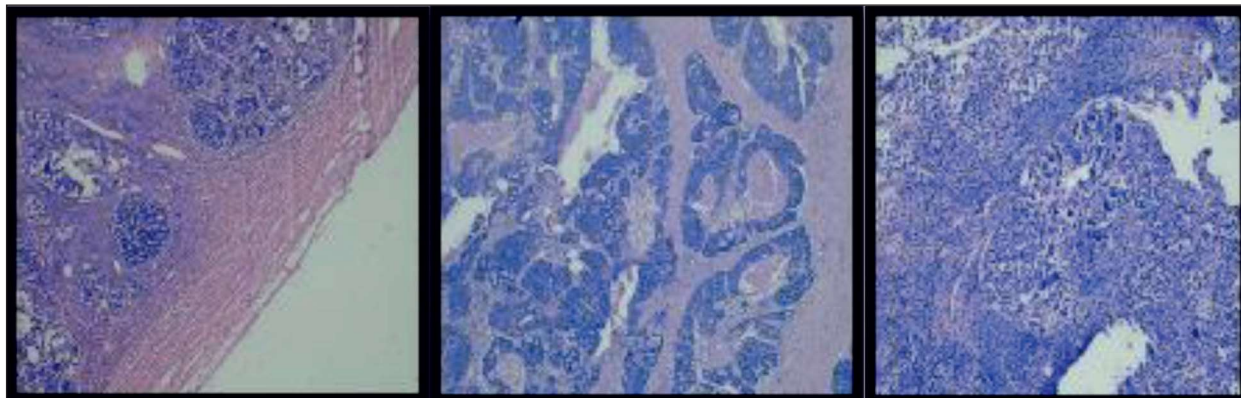
Microscopic finding:

Right ovary endometrioid carcinoma



Endometrioid Carcinoma

Left ovary – serous cancer high grade



Left ovary had serous carcinoma-high grade omentum, right and left peritoneum, bladder, and pouch of Douglas deposits were Positive for malignancy (high grade serous carcinoma)

Macroscopic size approximately 3 cm peritoneal washings were positive for malignancy uterus and fallopian tubes were not involved by tumor.

According to FIGO staging: Stage III B (macroscopic peritoneal metastasis more than 2 cm size)

According to TNM staging:

PT3: bilateral ovaries with peritoneal metastasis

PN: not assigned

PM: not applicable

On immunohistochemistry - ER, PR, HER2/NEU: negative

Patient was also counselled for genetic screening as she had both breast and ovarian cancer developing less than 50 years of age but she refused due to economic constraints.

DISCUSSION

This case report highlights an exceptionally rare presentation of **bilateral primary ovarian cancer** with two distinct histopathologies **high-grade serous carcinoma** in the left ovary and **endometrioid carcinoma** in the right ovary. Synchronous occurrence of primary genital cancers is very rare and the incidence is reported to be 1-2%.²⁻⁵

The most common combination of synchronous occurrence in genital organ is ovarian and uterine cancers and primary

bilateral ovarian cancers are of rarest variety and only 12-14 cases have been reported worldwide and still there is no consensus on clinical characteristics and treatment.

Synchronous bilateral ovarian carcinomas (SBOCs) can either result from the metastasis of a unilateral ovarian tumor to the contralateral ovary or represent distinct **bilateral primary ovarian cancers**. The differentiation between these two entities is crucial for prognosis and management. In this case, the presence of two different histological subtypes strongly suggests **bilateral primary ovarian cancer**, rather than metastatic spread from one ovary to the other.

The key clinical challenge was determining the origin of the malignancy. **Endometrioid ovarian carcinoma** is often associated with **simultaneous endometrial carcinoma**, which typically carries a better prognosis. However, in cases where an **endometrial carcinoma metastasizes to the ovaries**, the prognosis is significantly worse due to **stage progression**. The presence of **peritoneal metastases** in this case led to an assignment of **FIGO Stage IIIC**, indicating advanced disease.

Another complicating factor was the patient's prior history of **right-sided breast carcinoma**, for which she underwent **neoadjuvant chemotherapy, modified radical mastectomy, and axillary lymphadenectomy** two years prior. Given this history, there was a strong suspicion of an underlying genetic predisposition especially Hereditary breast ovarian cancer syndrome which is, particularly associated with BRCA1/BRCA2 mutations.⁶

From a pathological standpoint, the presence of peritoneal deposits and microscopic

metastatic involvement raised concerns about proper histopathological classification. The final diagnosis was made based on morphopathology, immunohistochemistry, and peritoneal involvement, confirming Stage IIIC bilateral primary ovarian cancer with two distinct histopathologies. Since high grade serous epithelial ovarian cancer has poorer prognosis than endometrioid ovarian cancer, therefore patient was counselled in view of the biological behaviour of high grade serous histology.

The significance of this case lies not only in its rarity but also in the diagnostic and therapeutic challenges it presents. The absence of a standard treatment protocol for synchronous bilateral primary ovarian cancers necessitates a personalized treatment approach with strict follow-up to monitor disease progression or recurrence. Additionally, comprehensive genetic analysis of such cases could provide insights into the molecular mechanisms governing these rare synchronous malignancies, potentially guiding targeted therapeutic strategies in the future.

CONCLUSION

This report underscores the need for heightened clinical suspicion, meticulous histopathological evaluation, and multidisciplinary collaboration in managing such complex ovarian malignancies. Given the limited number of documented cases, further research and case accumulation are warranted to enhance understanding and optimize treatment protocols for patients presenting

with synchronous but histologically distinct bilateral ovarian carcinomas.

REFERENCES

1. Chaturvedi, M., Krishnan, S., Das, P. *et al.* Descriptive Epidemiology of Ovarian Cancers in India: A Report from National Cancer Registry Programme. *Indian J Gynecol Oncolog* 21, 25 (2023).
2. Eser S, Gulhan I, Ozdemir R, Dicle N, Hanhan M, Baloglu A, *et al.* Synchronous primary cancers of the female reproductive tract in Turkish women. *Asian Pac J Cancer Prev.* 2011;12(4):857-9. Return to ref 14 in article PubMed Google Scholar
3. Ayhan A, Yalcin OT, Tuncer ZS, Gurgan T, Kucukali T. Synchronous primary malignancies of the female genital tract. *Eur J Obstet Gynecol Reprod Biol.* 1992;45(1):63-6.
4. Tong SY, Lee YS, Park JS, Bae SN, Lee JM, Namkoong SE. Clinical analysis of synchronous primary neoplasms of the female reproductive tract. *Eur J Obstet Gynecol Reprod Biol.* 2008;136(1):78-82.
5. Singh N. Synchronous tumours of the female genital tract. *Histopathology.* 2010;56(3):277-85.
6. Bouras A, Guidara S, Leone M, Buisson A, Martin-Denavit T, Dussart S, Lasset C, Giraud S, Bonnet-Dupeyron MN, Kherraf ZE, Sanlaville D, Fert-Ferrer S, Lebrun M, Bonadona V, Calender A, Boutry-Kryza N. Overview of the Genetic Causes of Hereditary Breast and Ovarian Cancer Syndrome in a Large French Patient Cohort. *Cancers (Basel).* 2023 Jun 29;15(13):3420. doi: 10.3390/cancers15133420. PMID: 37444530; PMCID: PMC10341368.