

## Atypical Presentation of a Large Ovarian Mass as Syncope Due to Inferior Vena Cava Compression

Prachi Gedam<sup>1</sup>, Niharika Pandey<sup>2</sup>, Shweta Patel<sup>3\*</sup>, Bharti Singh<sup>3</sup>

<sup>1</sup>Junior Resident, Additional Professor, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences Saket Nagar Bhopal, (M.P.), India

<sup>2</sup>Senior Resident, Additional Professor, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences Saket Nagar Bhopal, (M.P.), India

<sup>3</sup>Additional Professor, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences Saket Nagar Bhopal, (M.P.), India.

**Citation:** Prachi Gedem, Niharika Pandey, Shweta Patel, Bharti Singh. Atypical Presentation of a Large Ovarian Mass as Syncope Due to Inferior Vena Cava Compression. *Int Clin Med Case Rep Jour.* 2025;4(3):1-4

**Received Date:** 15 March, 2025; **Accepted Date:** 19 March, 2025; **Published Date:** 21 March, 2025

**\*Corresponding author:** Shweta Patel, Additional Professor, Department of Obstetrics and Gynecology, All India Institute of Medical Sciences Saket Nagar Bhopal, (M.P.), India

**Copyright:** © Shweta Patel, Open Access 2025. This article, published in *Int Clin Med Case Rep Jour*(ICMCRJ) (Attribution 4.0 International), as described by <http://creativecommons.org/licenses/by/4.0/>.

### ABSTRACT

**Background:** Inferior vena cava compression syndrome (IVCS) is a rare complication of large intra-abdominal masses, often presenting with lower extremity swelling, hypotension, and, in uncommon cases, syncope. This report highlights an unusual case of IVCS caused by a massive ovarian tumor, leading to dizziness and syncopal episodes.

**Case Presentation:** A 67-year-old postmenopausal woman presented with progressive abdominal distension, dizziness, and syncope. Imaging revealed a large right ovarian multilobulated cystic mass (16 × 22 × 30 cm) compressing the inferior vena cava. She underwent exploratory laparotomy with total abdominal hysterectomy, bilateral salpingo-oophorectomy. Histopathology confirmed mucinous cystadenoma. Postoperatively, her symptoms completely resolved.

**Conclusion:** Large ovarian masses should be considered in the differential diagnosis of unexplained syncope. Timely imaging and surgical intervention are crucial for symptom resolution and preventing complications.

**Keywords:** Ovarian mass, Inferior vena cava compression, Syncope, Mucinous cystadenoma

### INTRODUCTION

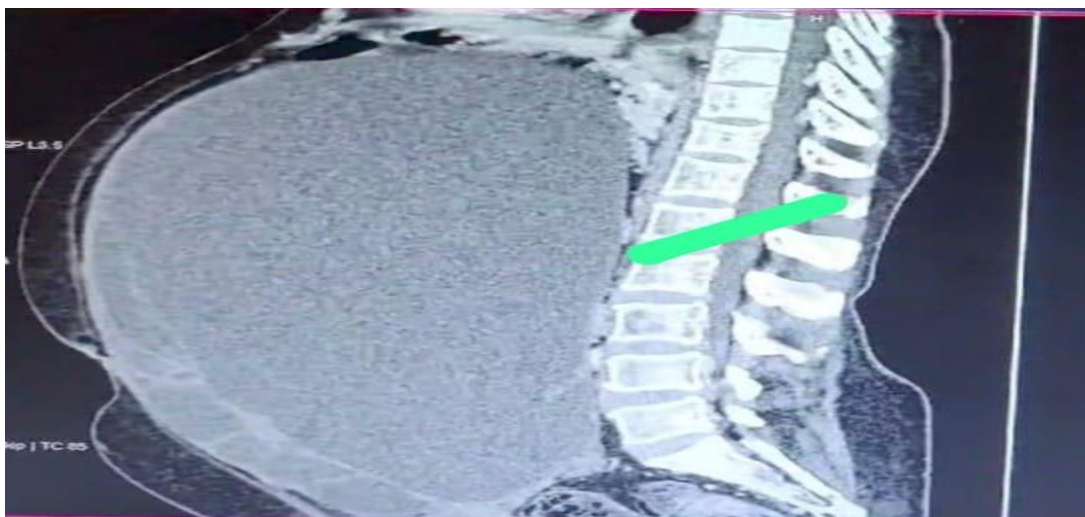
Ovarian masses are a common gynecological finding, with most being benign. However, when these masses grow to a significant size, they can exert pressure on adjacent structures, leading to systemic complications. One such rare but serious condition is Inferior Vena Cava Compression Syndrome (IVCS) <sup>[1]</sup>, which occurs when a

pelvic or retroperitoneal mass obstructs venous return, causing hypotension, lower extremity swelling, and even syncope. [2] Syncope, defined as a transient loss of consciousness due to cerebral hypoperfusion, [3] is commonly attributed to cardiac, neurological, or orthostatic causes. [4] However, we present a rare instance where a massive ovarian mass compressing the inferior vena cava (IVC) resulted in syncope and dizziness, highlighting the need for considering abdominal pathology in unexplained cases.

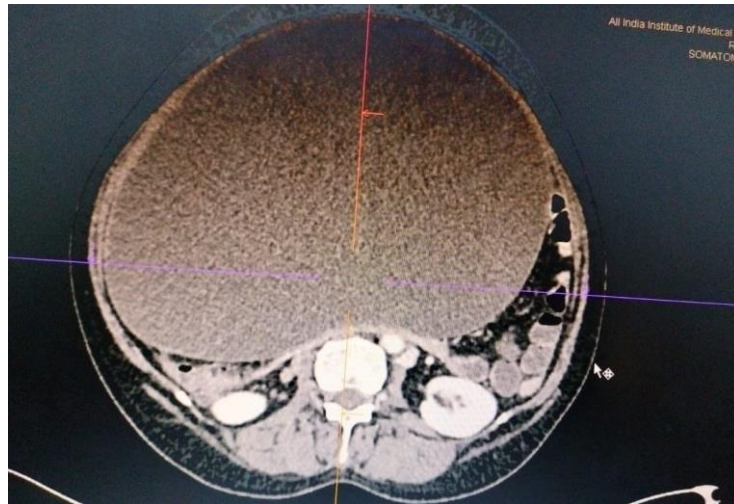
### CASE DESCRIPTION

A 67-year-old postmenopausal woman (P5L5) presented with progressive abdominal distension over three months, accompanied by intermittent abdominal pain, vomiting, and episodes of dizziness and syncope. She also experienced shortness of breath but denied symptoms such as chest pain, headache, or significant weight loss. Her medical history was unremarkable, with no prior surgeries. On clinical examination, she was hemodynamically stable. A large, firm, non-tender mass was palpable, extending up to the epigastrium and occupying all the abdominal quadrants. Gynecological examination revealed a retroverted, normal-sized uterus with a mass arising from pelvis extending upto the epigestrium, cervix and vagina appeared normal.

Laboratory investigations showed CA-125 level of 103.7 U/mL, while other routine blood tests were within normal limits. Echocardiography confirmed normal cardiac function, ruling out cardiovascular causes of dizziness. Ultrasound revealed a large anechoic cystic mass (15 × 21 × 28 cm) arises possibly from the right ovary, while the left ovary appeared normal. Contrast-enhanced CT (CECT) of the abdomen and thorax identified a large multiloculated abdominopelvic cystic lesion (16 × 22 × 30 cm) extending from right adnexa to the xiphisternum level with right ovary not seen separately from the lesion causing mass effect with effacement of the infrarenal IVC arising from the right adnexa, significantly compressing the IVC, consistent with a mucinous cystadenoma (Figure 1,2).



**Figure 1.** The sagittal CT scan image shows a large multiloculated abdominopelvic cystic lesion extending from right adnexa to the xiphisternum level with right ovary not seen separately from the lesion causing mass effect with effacement of the infrarenal IVC (highlighted region).



**Figure 2.** The axial CT scan image shows a large, well-defined, heterogeneous intra-abdominal mass occupying most of the abdominal cavity, causing significant displacement of adjacent organs and bowel loops.

Given the size of the mass and its compressive effects, the patient underwent an exploratory laparotomy. Intraoperative findings included a 30 × 25 cm cystic mass with a smooth surface originating from the right ovary (**Figure 3**). A frozen section confirmed mucinous cystadenoma. The surgical procedures performed included total abdominal hysterectomy, bilateral salpingo-oophorectomy. The final histopathology report confirmed the diagnosis of mucinous cystadenoma. Postoperatively, the patient's dizziness and syncope completely resolved, and she was discharged in a stable condition with an uneventful recovery.



**Figure 3.** The intraoperative image shows a large, well-encapsulated mass with a smooth surface, areas of congestion, and vascularity arising from the right ovary. Uterus and left ovary appear normal.

## DISCUSSION

This case presents an atypical yet clinically significant instance of syncope and dizziness due to IVC compression by a large ovarian mass. The mechanical compression of the IVC led to reduced venous return and preload, subsequently causing cerebral hypoperfusion and syncopal episodes <sup>[2]</sup>.

Unlike the classic presentation of IVC compression, which typically includes lower extremity edema and hypotension, this case underscores the need to consider intra-abdominal pathology in patients with unexplained dizziness or syncope. While cardiac causes are often prioritized in syncope workups, pelvic masses can rarely mimic cardiovascular etiologies. There are reported cases of massive hepatic cysts, renal cysts, and other intra-abdominal tumors causing similar presentations <sup>[1,2,3]</sup>.

## CONCLUSION

Ovarian masses should be considered as a differential diagnosis in cases of unexplained syncope, particularly when associated with abdominal symptoms. Prompt imaging and surgical removal of the mass was crucial in relieving the mechanical obstruction, resolving symptoms, and preventing potential complications such as venous stasis or thromboembolism. This case highlights the importance of a high index of suspicion and a broad diagnostic approach in evaluating syncope.

## REFERENCES

1. Shrestha BM, Shrestha S, Kharel S, et al. Giant ovarian mucinous cystadenocarcinoma: A case report. Clin Case Rep. 2022;10:e06067.
2. Lawrensia S, Khan YS. Inferior Vena Cava Syndrome. [Updated 2023 May 20]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024.
3. Choudhry MK, Xiong B, Anandaraj A, Trillo J. Hepatic cyst: an unusual suspect of syncope. Case Rep Hepatol. 2020: 1659718.
4. Silbergleit M, Keene B. An unusual cause of syncope: Inferior vena cava compression by a massive renal cyst. Radiology Case Reports. 2024;19(7): 2617-2620.