

## Postpartum Right Ovarian Vein Thrombosis Mimicking Acute Appendicitis

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**Ovarian vein thrombosis (OVT) is a rare condition which commonly occurs during the postpartum period. However, there are other conditions which could cause OVT such as malignancy, inflammatory bowel disease, severe pelvic infections (PID), sepsis, and recent abdominal or pelvic surgeries. OVT may mimic acute abdomen; thorough history and physical examination as well as radiological imaging are prerequisite to diagnosis. Anticoagulation is the treatment of choice in these cases.**

**We present a case of right OVT in a postpartum female who was admitted with history of lower abdominal pain. The case was managed by anticoagulation therapy and antibiotics.**

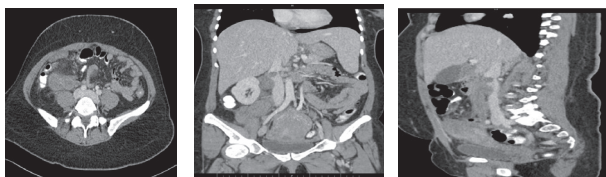
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Postpartum ovarian vein thrombosis is an uncommon cause of abdominal pain, with an incidence rate of 1/600 deliveries<sup>1</sup>. It is seen in 0.05% of all pregnancies that result in live births<sup>1</sup>. It is common during the postpartum period; however, it can be seen in non-pregnant patients<sup>2</sup>.

The aim of this presentation is to report a case of right OVT in a postpartum patient who was admitted with a history of lower abdominal pain.

### THE CASE

A thirty-five-year-old female, (para IV) presented on the tenth postpartum day with severe right iliac fossa pain and high-grade fever. The patient had a history of recurrent abortions and was not properly investigated. Past surgical history included three lower segment Caesarian sections. Physical examination revealed a fever of 38.6°C, with mild lower abdominal tenderness. Laboratory investigations revealed high white blood cell count. Acute appendicitis was suspected. CT abdomen with intravenous contrast revealed a right ovarian vein thrombosis extending into the inferior vena cava (IVC), see figure 1 (A-C). Coagulation profile and autoimmune workup revealed no abnormalities. The patient was subsequently started on anticoagulation therapy and antibiotics. The patient was admitted for further work-up and consultations from medical specialties including cardiology, rheumatology and hematology. She was discharged two weeks later in a good condition.



**1 (A)                      1 (B)                      1 (C)**

**Figures 1 (A-C): Axial Cuts of Enhanced CT Abdomen and Pelvis Showing Dilated Right Ovarian Vein Thrombosis Extending into the IVC**

### DISCUSSION

Austin was the first to describe ovarian vein thrombosis in 1956<sup>3</sup>. It occurs on the right side in 70-90% of cases due to longer right ovarian vein than the left and absent competent valves<sup>4</sup>. This condition is classically a puerperal process; however, it may arise in non-puerperal settings such as endometritis, pelvic inflammatory disease, malignancy, thrombophilia, inflammatory bowel disease, and pelvic and gynecologic surgeries<sup>6</sup>.

Ovarian vein thrombosis often has a vague and variable presentation; high index of suspicion is required to achieve the diagnosis. Classically, ovarian vein thrombosis presents in the first 7 postpartum days, typically with fever, pelvic pain, and right-sided abdominal mass. Studies have reported fever being present in 80% of the cases and right iliac fossa pain in approximately 55%<sup>5-7</sup>. Differential diagnosis includes acute appendicitis, inflammatory bowel disease, and in females, ovarian cyst or torsion. Therefore, imaging studies are necessary to make the diagnosis of OVT. MRI angiography has the highest sensitivity and specificity (approaching 100%) for detecting OVT. However, CT scan with intravenous contrast enhancement is usually the imaging modality used for diagnosis of most cases. Ultrasound can be used as well; however, it is operator dependent<sup>8</sup>. Laparoscopy is also a useful diagnostic method<sup>9</sup>.

Delay of the diagnosis and treatment of OVT could lead to life-threatening complications, such as extension of the thrombus into the IVC or the iliofemoral vessels, eventually reaching the pulmonary vessels to cause pulmonary embolism. Other serious complications that may occur include septic thrombophlebitis and infectious emboli<sup>10</sup>.

Management of OVT could be medical or surgical, both have similar success rates<sup>11</sup>. The main approach to medical treatment includes the use of anticoagulant with broad-spectrum antibiotics for 7 to 10 days. Surgery in the initial management of OVT is controversial; however, some clinicians prefer

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surgery for free-floating thrombosis, recurrent pulmonary emboli in spite of medical treatment, and if anticoagulants are contraindicated<sup>11</sup>. Recurrence of OVT is low in a subsequent pregnancy, but for patients with underlying hypercoagulable state, anticoagulant prophylaxis is recommended in future pregnancies<sup>9</sup>.

## CONCLUSION

**Ovarian vein thrombosis should be taken into account in cases of lower abdominal pain and fever in postpartum females. Radiological imaging such as: MRI angiography and CT scan with intravenous contrast are very helpful in the diagnosis. Prompt diagnosis of OVT is required to prevent serious complications.**

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