



## Case Report

# A rare case of ovarian vein thrombosis presenting as acute abdomen: A case report and review of literature

Swati Francis<sup>1,\*</sup>, Shameema Anvar Sadath<sup>1</sup>, Devi Krishna<sup>1</sup>, Rahul Cherian<sup>1</sup>

<sup>1</sup>Dept. of Obstetrics and Gynaecology, Aster Medcity Hospital, Kochi, Kerala, India



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### ABSTRACT

One of the most rarest of the entities diagnosed is the ovarian vein thrombosis, especially when in the postpartum period which occurs in 0.05% -0.18% of the pregnancies mainly associated with the right side 90% of the times. The mortality and morbidity encountered has been found on a higher range if not diagnosed appropriately and at the right moment. We present forward a case of a 28-year-old woman at seven days postpartum presented with a severe excruciating right lower quadrant abdominal pain. Her contrast enhanced CT of the abdomen and pelvis revealed a large right ovarian vein thrombosis. The patient was managed as decided and planned by the involvement of a multidisciplinary team with antibiotics and anticoagulant therapy. This case we encountered illustrates the importance of prompt diagnosis and appropriate treatment of OVT therefore planning at the best interest of the patient.

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## 1. Introduction

The diagnosis of Postpartum ovarian vein thrombosis is a very rare entity, which can often prove to be potentially highly fatal. When this condition is associated with a postpartum women, it usually involves a high rate of morbidity and mortality if not managed appropriately and at the right time. The postpartum ovarian vein thrombosis is a clinically relevant diagnosis, usually presenting with a sick patient with abdominal pain and fever, mostly associated with imaging revealing confirmed thrombosis of the vein. Here we present a postpartum case of ovarian vein thrombosis in a 28-year-old woman at seven days post normal vaginal delivery who presented with severe acute right lower quadrant abdominal pain. She was further evaluated by contrast enhanced computed tomography (CT) of the abdomen and pelvis that revealed a large right sided ovarian vein thrombosis. The patient was managed after discussion with a multidisciplinary team and with decision to work with oral anticoagulants and antibiotics.

## 2. Case Presentation

A 28-year-old woman P2L2 with the present pregnancy being the second one, at seven days post normal vaginal delivery was admitted to our hospital with severe right iliac fossa pain since 1 day. The pain commenced on postpartum day six which later aggravated the next day. She had no associated symptoms including vaginal bleeding, nausea or vomiting and fever. She had normal vaginal delivery of a live born-term female baby, and the immediate postpartum period was uneventful. Physical examination revealed vitally stable person with a normal pulse, BP, and temperature. Clinical examination revealed right iliac fossa tenderness along with clinical sign involving a positive rebound sign. Per speculum showed normal lochia and healthy cervix. Per vaginum examination revealed tenderness in the right fornices with no mass palpable. Patient had no further evidence of any signs related to deep vein thrombosis. Laboratory examination revealed elevated white blood cell count with neutrophilia predominant and mildly raised C reactive protein (CRP). Imaging including abdominal ultrasound showed probe tenderness in the right lower abdomen. In view of worsening pain, the patient was

\* Corresponding author.

E-mail address: [swati.francis@gmail.com](mailto:swati.francis@gmail.com) (S. Francis).

further decided by a multidisciplinary approach to go ahead with a contrast enhanced CT of the abdomen and pelvis. The latter revealed a thrombosed right ovarian vein with a minimal fat tissue stranding.

The case of this patient was put forward for a multidisciplinary team approach and a joint decision for conservative management with anticoagulants and antibiotics approach was made into effect. Finally as decided she was started on low-molecular weight heparin (LMWH) and antibiotics, the combination of which infact proved beneficial. Patient improved symptomatically and was shifted to oral anticoagulants over a period of 3 days. She was discharged in a stable condition by day 7 and was planned for a further anticoagulant therapy for next 3 months.

### 2.1. Differential diagnosis

The various differentials which could mimick this similar condition includes septic pelvic thrombophlebitis, acute appendicitis, inflammatory bowel disease, adnexal torsion, tubo-ovarian abscess, peritonitis and pyelonephritis.



**Fig. 1:** 'Post contrast CT coronal a): Sagittal; b): Reformatted images showing a dilated right ovarian vein with contrast filling defect (white arrows) consistent with acute ovarian vein thrombosis'.

### 3. Discussion

Women community have the highest and the most probable chance to suffer from a thromboembolic event when they are pregnant. However the overall incidence of thromboembolic events ranges from 0.3% to 1.2%.<sup>1</sup> OVT is a very rare condition which has proved as a potentially fatal one has a reported incidence of 0.002% to 0.05% in pregnancies, being more common after cesarean section.<sup>2</sup> The pathogenesis of OVT can be explained by the Virchow's triad: hypercoagulability, venous stasis, and endothelial

injury. It has also been found that the antegrade flow pattern in the right ovarian vein encourages further bacterial ascension and can cause intimal injury facilitating formation of a thrombus. The right ovarian vein enters the inferior vena cava at an acute angle, which makes it more susceptible to compression and hence leading towards the reason behind more predisposition to the right side ovarian vein in regards to developing thrombosis.<sup>3</sup> More than 90% of the cases of POVT present within 10 days postnatally associated with abdominal pain, pyrexia, vomiting, malaise and ileus. Along with this variable presentation fever persists despite antibiotics management. However the most common symptoms and signs postulated include lower abdomen or flank pain, fever and leukocytosis usually within the first few days after delivery.<sup>4</sup> The estimated incidence of OVT ranges from 0.05 and 0.18% of pregnancies with the majority affecting women in their 3rd or 4th decade of their life. Diagnostic imaging can be performed using ultrasound, CT scan or MRI, with magnetic resonance angiography having a great sensitivity and specificity. Also, CT scan with intravenous contrast and colour doppler have been proved to confirm OVT with a sensitivity of 77.8%, hence taking it as an initial mode of investigation primarily due to its cost effectiveness and better reliability. Diagnostic dilemma is always associated with this case scenario probably taking into consideration the rarity of this condition. Any delay in the diagnosis of this condition can often prove fatal to the patient involving complications such as thrombus extension to the ileo-femoral vessels and inferior vena cava and embolization to pulmonary vasculature.

However the treatment of choice include conservative management involving antibiotics along with anticoagulation therapy based on the clinical presentation. No specific guidelines for the management of this condition has been postulated so far. Hence, guidelines for treating lower extremities DVT could be applied for treating this entity. Furthermore, if the patients have a hypercoagulable disorder then anticoagulation should be given lifelong. A seven-day course of antibiotics can also be included when there is a suspicion of septic thrombophlebitis. The associated complications include ovarian abscess, ovarian infarction, uterine necrosis and sepsis with the pulmonary embolism being the most dreaded.<sup>5</sup> Nonetheless, if the patient fails to respond to the medical treatment, optional management include surgical mode - IVC filter placement, hysterectomy and thrombectomy or even ligation of the inferior vena cava which has proven to be of some benefit to the patient.<sup>6</sup>

### 4. Conclusion

OVT is considered a clinically relevant and fatal condition with mortality linked to the top two causes of direct maternal deaths : sepsis and thromboembolism. With an increase in the rates of caesarean sections POVT should be kept in mind as a probable diagnosis along with

the other differentials. A combination of early diagnosis and appropriate management with anticoagulation and antibiotics can often prove to be life saving. Many of the studied cases reveal that the complications such as pulmonary embolism, sepsis, and thrombus extension mostly arise in the puerperal setting, thereby supporting the use of anticoagulation therapy in these cases for a better prognosis and management.

## 5. Consent

Written informed consent was obtained from the patient for publication of this Case report and any accompanying images.

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None.

## 7. Conflict of Interest

The authors declare no competing interests.

## References

1. Sinha D, Yasmin H, Samra JS. Postpartum inferior vena cava and ovarian vein thrombosis – A case report and literature review. *J Obstet*

*Gynaecol.* 2005;25(3):312–3.

2. Kominarek MA, Hibbard JU. Postpartum ovarian vein thrombosis: An updat. *Obstet Gynecol Surv.* 2006;61(5):337–42.
3. Calderwood CJ, Jamieson R, Greer IA. Gestational related changes in the deep venous system of the lower limb on light reflection rheography in pregnancy and the puerperium. *Clin Radiol.* 2007;62(12):1174–9.
4. Derrick FC, Rosenblum RR, Lynch KM. Pathological Association of the Right Ureter and Right Ovarian Vein. *J Urol.* 1967;97(4):633–40.
5. Jenayah AA, Saoudi S, Boudaya F, Bouriel I, Sfar E, Chelli D. Ovarian vein thrombosis. *Pan Afr Med J.* 2015;21:251.
6. Clarke CS, Harlin SA. Puerperal ovarian vein thrombosis with extension into the inferior vena cava. *Am Surg.* 1999;65(2):147–50.

## Author biography

**Swati Francis** Specialist

**Shameema Anvar Sadath** Senior Consultant

**Devi Krishna** Senior Specialist

**Rahul Cherian** Specialist

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