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### RESEARCH ARTICLE

#### POSTPARTUM OVARIAN VEIN THROMBOSIS: A CASE REPORT

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#### Abstract

Ovarian vein thrombosis is a rare pathology that occurs most often in the postpartum period. It usually manifests by a non-specific abdominal pain with or without fever. It can clinically resemble acute appendicitis if the pain is located in the right iliac fossa. We report the case of a 19-year-old female patient who presented with febrile inflammatory pain of the right iliac fossa at 48 hours postpartum of an eutocic delivery, in whom a computed tomography (CT) scan showed an extensive thrombosis of the right ovarian vein with a normal-looking appendix. The treatment was based on broad-spectrum antibiotics and anticoagulant therapy, with a good clinical and biological evolution.

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#### Introduction:-

The postpartum period is when postpartum ovarian vein thrombosis (PVT), a rare disease, is most frequently identified. According to estimates, it occurs between 0.05 and 0.18 times for every 100 vaginal births and up to 2 times for every 100 c-section births [1,]. Following its initial description in 1956, it has since been mentioned in case reports and brief observational studies [2]. TVO has a complex physiopathology that includes biochemical and structural changes [3].

Onset can happen up to four weeks after delivery, but it usually happens within seven days of delivery. Fever, right lower abdomen pain, and a palpable mass characterize the traditional presentation. Patients hardly ever present with all three components, though. Because symptoms are frequently vague, the diagnosis is made even more difficult.[4,5].

Imaging, most commonly a CT scan, is typically used to identify ovarian vein thrombosis. Anticoagulant and antibacterial therapy typically lasts for several months as part of the treatment plan.

The most dangerous complication, which affects 13-25% of patients and accounts for a sizable amount of mortality (4-5%), is pulmonary embolism. the majority of patients recover with minimal morbidity[3].

#### Case 1

A 19-year-old female patient, primigravida, who had given birth by vaginal delivery, with a normal post-partum. 48 hours after delivery, the patient presented a fever with pelvic pain especially in the right iliac fossa, the abdominal exam had found a sensitivity of the right iliac fossa without contracture or defense, the gynecological examination with the speculum showed a normal a normal cervix and vagina with minimal lochia, Digital examination of the vagina found a globular uterus painless at mobilization.

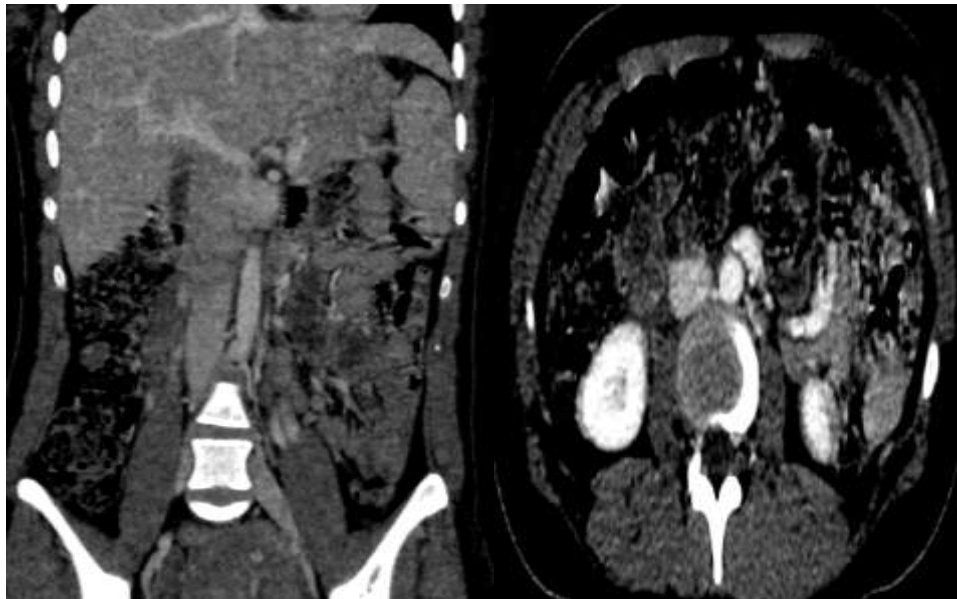
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Lab results showed hyperleukocytosis at 12,000/mm<sup>3</sup>, elevated C-reactive protein at 145 mg/l, and normal renal function. An abdominal-pelvic CT scan, with iodinated contrast injection, was performed in light of the clinical findings and showed an enlarged uterus (figure1) and an enlarged vascular structure opposite the right psoas muscle (Figure 2A and 2B), extending from the right ovarian region to the subrenal inferior vena cava, in connection with the right ovarian vein. The latter had a hypodense lumen associated with wall enhancement suggestive of thrombosis. The inferior vena cava was permeable. The appendix was well visualized and normal in appearance. The diagnosis of extensive thrombosis of the right ovarian vein was retained and the patient was put on curative dose of anticoagulants associated with an adapted broad spectrum antibiotic therapy. The pain and fever disappeared within three days of the start of treatment. A thrombophilia test was ordered.



**Figure 1:-** Axial scan section:an enlarged uterus.



**Figure 2 and 3:-** Axial (2) and coronal (3) scan sections: an enlarged vascular structure opposite the right psoas muscle, extending from the right ovarian region to the subrenal inferior vena cava.

### **Discussion:-**

Ovarian vein thrombosis (OVT) is a rather uncommon postpartum complication. It occurs in between 0.05 and 0.18% of vaginal deliveries. After a c - section, this incidence could increase by up to 2% [1,3]. Even if caught early, it is a serious pathology with a death rate close to 5%. Women who are multiparous are more likely to experience it [6].

Pregnancy affects the Virchow triad's three components in a way that promotes clot formation. Hormonal changes, such as increased oestrogen levels, contribute to hypercoagulability. Pregnancy causes an increase in the clotting factors II, VII, VIII, and X, platelet activating factors, and von Willebrand factor. In addition, levels of protein S and antithrombin III decrease, and activated protein C resistance is prevalent. Damage to the endothelium can be brought on by bacterial endothelial damage, an intrauterine movement, or a proinflammatory state. Bacterial spread from intrauterine sources, particularly through the right ovarian vein, may play a role in the pathogenesis. This spread and the antegrade course of the right ovarian vein are key factors in septic thrombophlebitis, which is thought to be an infectious variant. [7].

While physiological and anatomical variables specifically predispose the right ovarian vein, gestational venous stasis favors OVT. Right-side OVTs make up about 90% of all OVTs. The right gonadal vein has smaller diameter, greater length, and ineffective valves. Extrinsic variables include, for instance, the reversal of flow following delivery and the narrowing of the right ovarian vein and inferior vena cava during dextrorotation (IVC) [8].

Clinically, there is no specific manifestation. The presence of fever and abdominal and pelvic pain in the postpartum period typically leads physicians to conclude that endometritis is the cause. However, any postpartum fever, whether or not it is accompanied by pelvic pain, should suggest of OVT, particularly if it is resistant to well administered antibiotic medication. OVT can have a wide range of clinical symptoms, which helps to explain why so many other differential diagnoses are frequently suggested in the beginning due to their higher occurrence. It can, in fact, mimic a variety of conditions, including acute appendicitis (the case of our patient), pyelonephritis, nephritic colic, pelvic abscess, broad ligament hematoma, and adnexal torsion.

Imaging is used to make the diagnosis. CT scan with 100% sensitivity was better than magnetic resonance imaging (MRI) (92%) and echo-Doppler [9]. In addition to confirming the correct diagnosis, a CT scan enables the search for compression of the ipsilateral ureter and extension to the inferior vena cava and/or renal vein. Because haemoglobin is ferromagnetic, MRI can also determine the age of the thrombus in addition to making a diagnosis.

In our case, the diagnosis was made by abdominal and pelvic CT scan, which showed a dilated right ovarian vein with a hypodense lumen and enhanced wall after injection of iodinated contrast. There was no extension to the inferior vena cava or homolateral renal vein. There was no compression of the right ureter...

The treatment is based on a mix of curative dosages of heparin and suitable broad-spectrum intravenous antibiotic therapy for up to 48 hours of apyrexia.

Blood cultures, urine cultures, and vaginal swabs should all be performed in order to have a well-targeted antibiotic therapy. After that, anti-vitamin K medication is continued for a minimum of six months, however the exact length of this therapy is still up for debate. As it is abnormal in 50% of patients with ovarian vein thrombosis, a thrombophilia test should be carried out at a later time [9].

Additionally, septic shock or septic embolism, both of which have an elevated mortality rate, can develop from septic pelvic thrombophlebitis. But with the use of antibiotics and anticoagulants, PST mortality is currently less than 5%. [10].

Recurrence of OVT is low in the next pregnancy. However, for patients with an underlying hypercoagulable state, anticoagulant prophylaxis is recommended in future pregnancies.

### **Conclusion:-**

Right ovarian vein thrombosis is a rare condition that usually occurs in the postpartum period. It can mimic other conditions, including appendicitis. Its diagnosis is made by imaging, especially CT scan with intravenous injection of iodinated contrast medium, which has the best diagnostic performance. Because of its severity and clinical similarity to appendicitis, TVO constitutes a diagnostic and therapeutic emergency, in order to avoid unnecessary surgery and to institute appropriate treatment to prevent possible lethal complications.

### **Conflict of interest**

The author has no conflict of interest and no funding/grant from any organization.

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