



BMH Med. J. 2021;8(2):95-98. **Case Report**

Right Flank Pain in a Postpartum Natural Vaginal Delivery Patient; Ovarian Vein Thrombosis or Spontaneous Ureter Rupture? A Case Report

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Abstract:

Background: Ovarian vein thrombosis is a rare clinical disturbance occurring after recent natural vaginal delivery manifested by abdominal pain, fever, nausea and vomiting. It can be associated with other inflammatory diseases or malignant situations. In this case study, a young female with an ovarian vein thrombosis disorder and a previous natural vaginal delivery has been reported.

Case presentation: A young female was referred to our medical department presented by abdominal pain, fever, nausea and vomiting. She had a previous natural vaginal delivery five days before admission to our medical department. According to computed tomography (CT) scan and ultrasound results, ovarian vein thrombosis was diagnosed. Therefore, we decided to treat the patient with heparin, cefixime, clindamycin and warfarin and the patient has been stable without any further intensification of the mentioned condition after 4 months from diagnosis.

Conclusion: The detection of the OVT with CT scan and ultrasounds leads to an appropriate treatment at a proper time which can prevent the incidence of pulmonary embolism and such other lethal outcomes.

Keywords: postpartum period, thrombosis, hydronephrosis, case report

Introduction

Ovarian vein thrombosis (OVT) is a rare clinical disturbance occurring after recent natural vaginal delivery (NVD) manifested by abdominal pain, fever, nausea and vomiting [1]. It has been reported in approximately 0.05-0.18% of vaginal deliveries and in 2% of births by Caesarean section [2]. It is most often encountered in the setting of the postpartum period and is also

associated with other causes such as prior pelvic surgery, malignancy, inflammatory bowel disease, and pelvic inflammatory disease [3]. In this case study, a young female with an OVT disorder and a previous NVD has been reported.

Case presentation

A young healthy woman presented to emergency room of our medical department with right flank and right lower quadrant pain, scattered fever, severe nausea and vomiting. She had natural vaginal delivery five days ago and had no history of any other illness or drug history. Her vital signs were normal: blood pressure 120/80 mm Hg; pulse rate 72/bpm; and body temperature 38 °C. The sound of the lungs was clear. On abdominal examination, tenderness of right flank and right lower quadrant were present. Laboratory evaluation revealed normal creatinine and blood urea nitrogen levels and urine culture and blood culture tests were negative. Other biochemical results, including C-reactive protein level and erythrocyte sedimentation rate were also within normal range.

Ultrasound results revealed uterus larger than normal, and endometrium with 3mm thickness and also some liquids in its cavity. The ovaries had a normal size and mild hydronephrosis was seen in the right kidney and a tortuous noncompressible tubular structure containing internal echo, was seen in the posteromedial of the right pelvis that showed no flow in the color Doppler (**Figure 1**).



Figure 1: Right OVT thrombosis ultrasound showing a tortuous noncompressible tubular structure containing internal echo in the posteromedial of the right pelvis. Red arrow demonstrating the OVT thrombosis.

Abdominal and pelvic spiral computed tomography (CT) scan with and without IV and oral contrast was performed. It demonstrated that the uterus was larger than normal and some liquids were also seen in Morrison space. Mild to moderate hydronephrosis was also seen in the right kidney, in addition to bilateral mild pleural effusion. A hyperdense tortuous tubular structure was revealed in the posteromedial of the right renal pelvis by spreading to the right adnexa in CT scan without IV contrast. This structure illustrated a hypodense center in the CT scan with IV contrast. The rest of the organs and tissues were in normal condition (**Figures 2 and 3**).

What is the diagnosis? Diagnosis: Ovarian vein thrombosis

Ovarian vein thrombosis (OVT) is a rare but potentially serious clinical disturbance that may be associated with a variety of inflammatory and malignant conditions [1]. It has been reported in approximately 0.05-0.18% of vaginal deliveries and in 2% of births by Caesarean section [2]. It is most often encountered in the setting of the postpartum period and is also associated with other causes such as prior pelvic surgery, malignancy, inflammatory bowel disease, and pelvic inflammatory disease [3]. This case was presented five days after NVD with no remarkable past medical history.

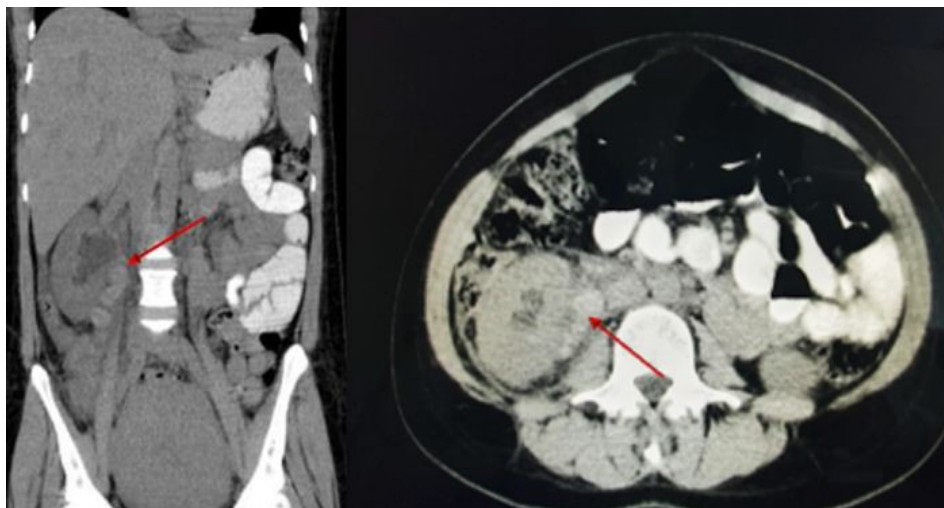


Figure 2: A. Axial. B. Coronal. CT scan without IV contrast showing a hyperdense tortuous tubular structure in the medial of the right renal pelvis. Red arrow demonstrating the OVT thrombosis.

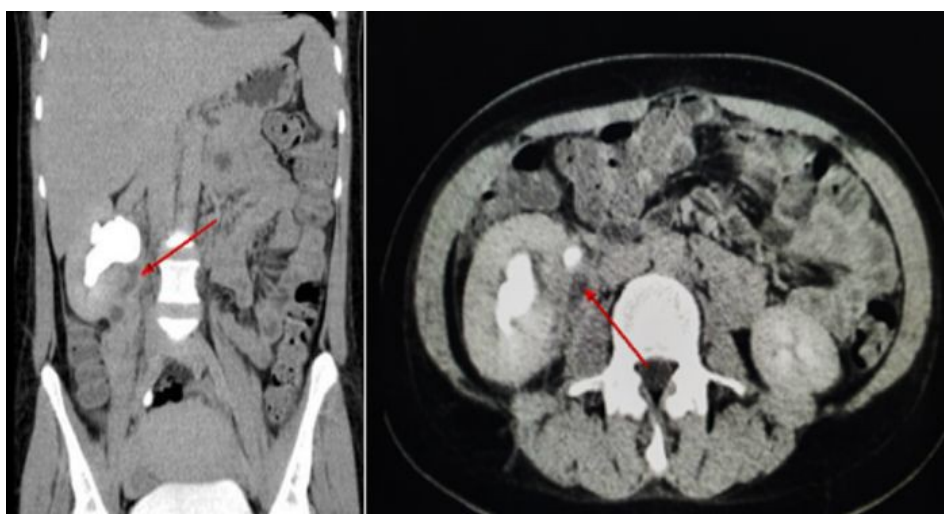


Figure 3. A. Axial. B. Coronal. CT scan with delay phase IV contrast showing a hypodense center and hyperdense peripheral rim in the posteromedial of the right renal pelvis by spreading to the right adnexa. Red arrow demonstrating the OVT.

The post-partum patients with OVT usually present days after delivery with abdominal pain and pyrexia. The typical clinical features of OVT in this patient group have been described as lower abdominal pain, fever, nausea and vomiting which were also symptoms of our patient. The differential diagnosis of OVT in the postpartum period include acute appendicitis, endometritis, pelvic inflammatory disease, pyelonephritis, nephrolithiasis, tubo-ovarian abscess, ovarian torsion and Spontaneous ureteral rupture which was also presented as a challenge in this case, is defined as a rare condition which is caused by ureteral obstruction by calculus, stricture or a tumor [4].

Untreated, OVT may multiply thrombosis in the renal vein and Inferior vena cava (IVC), sometimes resulting in pulmonary embolism. The incidence of pulmonary embolism in women with postpartum OVT has been stated to be as high as 33%, 4% of which are deemed to be lethal. Tubular serpiginous hypoechoic structure in the adnexa adjacent to the ovarian artery is an ultrasound finding. Also, the absence of doppler flow can be a diagnostic feature. Tubular structure with an enhancing wall and low-attenuation thrombus can be found in the ovarian vein CT scan detection [5]. In this case, tortuous tubular structure was detected at posteromedial of the right renal pelvis with spreading to right adnexa in CT scan and ultrasound with no spreading to the renal vein and IVC.

The delay phase CT scan with IV contrast was performed in this case to demonstrate ureter pathway

for differentiating OVT diagnosis from spontaneous ureter rupture that was a challenge due to hyper density and location of this structure that was visualized in posteromedial of right renal pelvis in the CT scan without IV contrast. Because, the treatment with heparin was the choice treatment in the first one and was contraindicated in the other one.

Management approach of OVT may be medical or surgical treatment, with the same success rate in both methods. The main approach to medical treatment involves the use of anticoagulant. The coverage of broad-spectrum antibiotics for 7 to 10 days has also been recommended [6].

The patient was finally discharged from the medical center with the prescription of cefixime, clindamycin, heparin and warfarin, along with recommendation for rheumatology and hematology workup tests. As far as follow-up, the patient had no recurrence due to any other problems.

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