

CASE REPORT

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Idiopathic ovarian vein thrombosis in the postmenopausal age

Ralphe Bou Chebl, Seth Krupp, Kassem Bourgi, Gilbert Abou Dagher

ABSTRACT

Introduction: Ovarian vein thrombosis (OVT) is a rare condition, most often seen in the postpartum period. It has also been associated with pelvic inflammatory disease, hysterectomies and acquired thrombophilia states. Undiagnosed and unrecognized, it can lead to serious complications such as pulmonary embolism, sepsis and death. **Case Report:** We report a case of idiopathic unprovoked ovarian vein thrombosis in a previously healthy postmenopausal woman presenting with a one week history of right sided back pain. **Conclusion:** Ovarian vein thrombosis is a very rare condition that carries very serious complications. Clinicians should have a high level of suspicion and should initiate therapy as soon as the diagnosis is confirmed to avoid any catastrophic sequelae.

Keywords: Ovarian vein thrombosis (OVT), Gonadal vein, Postmenopausal

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INTRODUCTION

Ovarian vein thrombosis (OVT) is an uncommon but potentially serious condition. It is most commonly seen in the puerperal period with an incidence of 1 in 3000 deliveries. The incidence increases to 1 in 800 with cesarean sections [1]. Ovarian vein thrombosis has also been associated with other hypercoagulable states such as factor V Leiden [2], gynecological malignancies, and it has been reported to occur following pelvic inflammatory disease (PID) and pelvic surgery [3, 4]. The patients usually presented with fever, abdominal pain and a pelvic mass, with a preponderance to involve the right ovary. Though it is a rare disease, it can lead to serious complications such as pulmonary embolism and sepsis, therefore, a higher level of suspicion is required for a prompt diagnosis and rapid initiation of anticoagulation. We describe an unusual case of ovarian vein thrombosis presenting as back pain in a postmenopausal woman.

CASE REPORT

A 79-year-old G5P5 woman with a past medical and surgical history of diabetes, hypertension, appendectomy at the age of five and a hysterectomy at age 30, was presented to the emergency department with a one-week history of right sided lower back pain. She described her pain as sharp, and non-radiating. She denied any fever, vomiting or urinary symptoms. She had no change in her bowel movements but did report some occasional right sided abdominal pain along with decreased appetite.

Vital signs of the patient showed blood pressure 148/68 mmHg, pulse 78 beats/minute, respiratory rate 17 breaths/minute, temperature 38.3°C. Physical examination of the back showed some mild tenderness to palpation in the right lower flank region. There were no focal neurological deficits. She had moderate right lower quadrant tenderness and guarding, without any rebound, and a positive psoas sign.

Laboratory tests including a complete blood count, a metabolic profile, liver function tests, urinalysis and an erythrocyte sedimentation rate (ESR) were within normal limits except for an ESR of 89 mm/hr. Given her presentation and physical examination findings, a computed tomography (CT) scan of her abdomen and pelvis with intravenous (IV) contrast were done and it showed a right ovarian vein thrombosis without any evidence of malignancy (Figures 1 and 2).

The patient was started on heparin and was admitted to the medicine floor for work up of occult malignancy. She underwent an ultrasound of the pelvis and a CT scan of chest which were negative for any malignancies and was discharged on warfarin for 3–6 months. On follow-up with the gynecology service, the patient denied any history of spontaneous abortions, blood clots, or PID. A mammogram was done which showed a suspicious mass in the left breast which was biopsied and was found to be benign.

DISCUSSION

Ovarian vein thrombosis is a rare condition. It is usually seen within the first four weeks postpartum most commonly occurring within the first four days [4]. The right ovarian vein is affected in 80–90% of cases. This has been attributed to the dextrorotation of the uterus during pregnancy compressing that vein, but also to the increased length of the right ovarian vein and the presence of incompetent valves [1]. The etiology is thought to be due to Virchow's triad of stasis, hypercoagulability and endothelial injury. It is associated with pelvic inflammatory disease, malignancy



Figure 1: Computed tomography scan of the abdomen showing evidence of a right sided ovarian vein thrombosis (arrow) with enhancement of the ovarian vein wall.

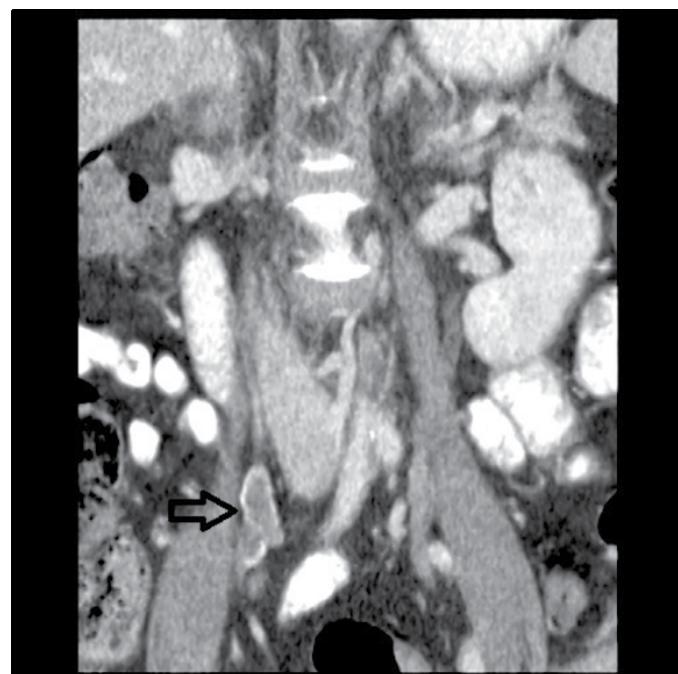


Figure 2: Coronal abdominal computed tomography scan showing evidence of thrombosis and enlargement of the distal end of the right ovarian vein (arrow).

and pelvic surgery [3]. Recognition and treatment of ovarian vein thrombosis is needed to avoid the morbidity and mortality associated with this condition. The complications of OVT include thromboembolic events such as extension of the thrombus into the inferior vena cava or renal vein and lead to ovarian infarction, sepsis and ultimately death [5].

Ultrasound, magnetic resonance imaging (MRI) scan, and CT scan with IV contrast are the best radiologic modalities for diagnosing ovarian vein thrombosis [1, 4]. Ultrasound provides a rapid non-invasive initial examination, free of any radiation to the patient. However, it only has a sensitivity of 56% in diagnosing OVT as it is operator-dependent, and the ovarian vein is often obscured by overlying bowel gas. The CT and MRI scans, with sensitivities greater than 95%, offer a definitive diagnosis of ovarian vein thrombosis and exclude other clinical diagnostic possibilities. The most common findings on CT scan is an enlarged ovarian vein with central hypodensity representing the thrombus, a sharply defined vessel wall, and perivascular inflammatory stranding [1, 4].

There are only two case reports in literature of idiopathic, unprovoked, ovarian vein thrombosis. The cases are from the United States in 2012 where a 67-year-old woman was presented with a one-month history of left sided abdominal pain and from Australia in 2010 where a 42-year-old woman was presented with acute abdominal pain and nausea [5, 6]. Both patients were admitted to the hospital and started on anticoagulation. They were not found to have any predisposing factors for venous

thrombosis. Two other cases were reported in literature as idiopathic but upon examination of the cases, it was found that both patients had risk factors as one of them presented late in the postpartum period and the other had stopped her oral contraceptives two months prior to the development of her OVT [7, 8].

Our case is unusual in that the patient initially presented with back pain. The differential diagnosis of such presentations in elderly women includes abdominal aortic aneurysm, discitis, pathological fractures, urinary tract infection, kidney stones and appendicitis. Usually, ovarian etiologies of abdominal pain are seen more in younger patients as the ovaries undergo a significant decrease in size after menopause [9]. It is unlikely that the hysterectomy caused her venous thrombosis as the surgery was done 40 years ago and there was no evidence of OVT on her previous abdominal CT scan done 4 years prior to this presentation.

The role of anticoagulation and antibiotics is not clear in the treatment of idiopathic ovarian vein thrombosis as the data is limited [1]. Patients are started on heparin and are discharged on warfarin for six months for a documented ovarian vein thrombosis. Antibiotics are usually given in postpartum patients presenting with fever and abdominal pain as an empirical treatment for endometritis [4]. In our review of literature, we found that all cases of idiopathic OVT had complete resolution of their symptoms without receiving any antibiotics [6–8]. Our patient was also not started on antibiotics and had complete resolution of her symptoms [10].

CONCLUSION

This is a rare presentation of unprovoked ovarian vein thrombosis that presented as back pain in a postmenopausal woman. Given the possible complications that could arise and the increased morbidity it carries on the elderly population, clinicians should have a high level of suspicion and should initiate therapy as soon as the diagnosis is confirmed to avoid any catastrophic sequelae.

Author Contributions

Ralphe Bou Chebl – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Seth Krupp – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Kassem Bourgi – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Gilbert Abou Dagher – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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