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## Case Report

# Thrombosis of a parametrial vein with subsequent recanalization-A case report

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## Abstract

**Background:** Thrombosis of parametrial veins are rarely diagnosed by transvaginal sonography. The clinical importance of parametrial vein thrombosis is not known. We present the first fully documented case of pelvic varicosities with non-occlusive thrombosis resulting in subsequent development of pelvic pain that alleviated with the resolution of the thrombus.

**Case report:** We present a perimenopausal woman that underwent transvaginal sonography for routine check-up. The patient sustained a thrombosis in the parametrial vein that some days later caused minor pain and dissolved spontaneously within three months.

**Discussion and conclusion:** Transvaginal sonography should also focus on the venous pelvic system and look for thrombosis. Thrombosis of dilated pelvic veins may play a role in the pathogenesis of the pelvic congestion syndrome in a sense that pelvic vein varicosities that develop a thrombus evolve from an asymptomatic anatomic description of dilated veins to a pelvic pain disorder requiring treatment.

## Introduction

Venous thromboses are blood clots that occur in venous blood vessels and in case of occlusive thrombosis in major vessels may even be life threatening. Venous thrombosis may result in a subsequent stasis of the blood distal to the thromboses with subsequent swelling of tissues, so called edema. A local inflammation reaction of the vessel based on the thrombus is called a thrombophlebitis and is painful. Typically, patients with thrombosis present with symptoms such as pain and/or swelling of extremities or internal organs. Thereafter, by means of sonography or other radiological technologies in combination with serologic analysis, the thrombosis is diagnosed and treatment is initiated. Asymptomatic thrombosis of minor vessels is likely much more common in the population than assumed, and hence, its incidence is not known.

Transvaginal sonography is widely utilized in gynecology. However, the search for venous thrombosis is not in the focus of the examination. We here present a case of a transvaginal sonography with an incidental finding of a venous thrombosis in the parametrium of an oligo-symptomatic patient with no known risk factors for thrombosis and with spontaneous

recanalization of the vessel. The present paper hypothesizes that thrombosis of parametrial veins may be of importance in the development of the pelvic congestions syndrome.

## Case presentation

A 49-year-old perimenopausal physician underwent routine gynecological checkup. She had regular but very light menstrual periods, 3 years following therapeutic endometrial ablation for hypermenorrhea. The woman had three spontaneous deliveries and a Hashimoto thyroiditis, treated with levothyroxine. The slim patient was healthy without any risk factors for thrombosis in her or her family's history. Yearly gynecologic checkups including transvaginal sonography did not show relevant abnormalities. Hence, the following findings are not considered to be in context with the patient's history.

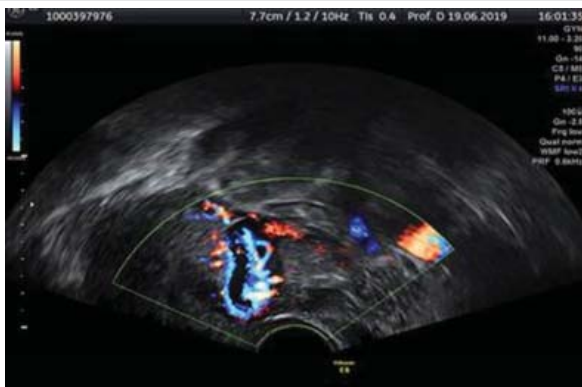
Using transvaginal ultrasound, we incidentally discovered a dilated vein in the left parametrium, with a diameter of approximately 1cm. The size of this vein was comparable to that of the corresponding external iliac vein. A thrombus that grew from the left uterine wall to the confluence of the vein into the internal iliac vein partially occluded this parametrial vein (Figure 1).

As this situation was an incidental finding, the patient was asymptomatic at that time, had no known risk factors for thromboembolic events and as a physician was well compliant, we decided for a follow-up without any anticoagulant therapy.

At the follow up visit, three months later, the patient described that shortly after the last visit she experienced a slight pressure in the lower abdomen, which dissolved gradually over time. The sonographic Doppler-flow signal in the left parametric vein has returned to normal and the thrombus has dissolved. In addition, the secondary dilated collateral vessels surrounding the former partially occluded vein went back to their normal diameters (Figure 2). For the future of our patient we decided, in case of prolonged immobilization, e.g. when ill and bedridden or when on a long-distance flight, to prescribe her an anticoagulant prophylaxes with enoxaparin, dose-adjusted to the patients weight.

## Discussion

Deep venous thrombosis is a well-known and common medical disorder. Its exact incidence is estimated to range from 1 to 2 per 1000 persons with a fatality rate of 4.6% [1]. The incidence of asymptomatic venous thrombosis of internal organs is unknown, and hence, one may only speculate on its clinical implications.



**Figure 1:** A transvaginal sonography with a non-occlusive thrombosis of left parametrial vein surrounded by collateral vasculature is depicted.



**Figure 2:** This figure depicts a transvaginal sonography of the identical vein in the same patient as in Figure 1 but with patent left parametrial vein following spontaneous recanalization following thrombus.

Transvaginal sonography is a routinely used tool in gynecological offices. Doppler sonography is utilized to differentiate cystic tumors from blood vessels and to assess malignancy of tumors. The search for thrombotic obstruction of blood vessels is not in the focus of gynecologic sonography.

We present a transvaginal sonography case describing an asymptomatic parametrial vein thrombosis which recanalized spontaneously.

Incidental finding of asymptomatic spontaneous thrombosis or thromboembolism are well known. The diagnosis of hepatic vein thrombosis in asymptomatic cases [2] or asymptomatic thrombosis of the renal vein in patients with idiopathic nephrotic syndromes of the adult [3] have been described.

Leibovitz et al reported four cases of pregnancy-associated uterine venous complex thrombosis of which three were diagnosed by transvaginal sonography [4]. None of these cases was symptomatic. The vein compressibility test, which is routinely performed for the diagnosis of deep venous thrombosis of the legs, could not be applied to the patients of the Leibovitz study. This was due to the lack of stiff structures against which the uterine veins could be compressed. Also in our case, we confirm difficulties to perform this test. Mavrelou et al described a series of six incidental cases of parametrial vein thrombosis in non-pregnant woman [5]. These patients were referred for transvaginal sonography for various reasons. One patient suffered from dyspareunia, two were seen for the follow-ups of adnexal cysts, one for suspected polycystic ovaries and two for early pregnancy complications.

Pelvic Congestion Syndrome (PCS) is a disorder that may account for 15–40% of chronic pelvic pain and is presumed to be linked to dilated pelvic veins [6]. Clinical signs are chronic pelvic pains that worsen by prolonged standing, coitus, menstruation, or pregnancy. The duration of the pain is at least 3 months. The pain is localized in the lower abdomen or pelvis, and there is no other condition that may explain the patient's pain. Dilated pelvic veins are frequent incidental findings, most often without symptoms. So far, the exact pathophysiology of PCS is not fully understood but is associated with incompetence of ovarian and/or internal iliac veins in premenopausal woman [7]. Transabdominal sonography is considered a significant diagnostic tool for the diagnosis of PCS [8]. On the other hand, transvaginal sonography seems not to be a standard diagnostic method for the PCS, although that has been suggested [9,10]. The case presented in this paper had an incidental finding of a thrombosis in the parametrial vein that later caused minor pelvic pain. This led us to the hypothesis, that dilated pelvic veins may be of low clinical importance, however, if associated with acute thrombosis it may be causing pelvic tenderness or pain. Of course, this case report does not prove this hypothesis. However, it may induce awareness in the gynecologic society where transvaginal sonography is in daily use to search for thrombotic events in dilated pelvic veins in patients suffering from PCS. In addition, this should encourage the society for further research in the field.



## Conclusion

Thromboses within parametrial veins are rarely diagnosed by transvaginal sonography. However, they may be misdiagnosed and may contribute substantially to the pathophysiology of pelvic congestion syndrome.

## Data availability

Data have been extracted from the patient's record and hence, are not available for the public. The patient consented to the publication of the case.

## References

1. Naess IA, Christiansen SC, Romundstad P, Cannegieter SC, Rosendaal FR, et al. (2007) Incidence and mortality of venous thrombosis: a population-based study. *J Thromb Haemost* 5: 692-699. [Link: https://bit.ly/3wQrZa2](https://bit.ly/3wQrZa2)
2. Hadengue A, Poliquin M, Vilgrain V, Belghiti J, Degott C, et al. (1994) The changing scene of hepatic vein thrombosis: recognition of asymptomatic cases. *Gastroenterology* 106: 1042-1047. [Link: https://bit.ly/3uMWwUd](https://bit.ly/3uMWwUd)
3. Asghar M, Ahmed K, Shah SS, Siddique MK, Dasgupta P, et al. (2007) Renal vein thrombosis. *Eur J Vasc Endovasc Surg* 34: 217-223. [Link: https://bit.ly/3wWcFbO](https://bit.ly/3wWcFbO)
4. Leibovitz Z, Degani S, Shapiro I, Tal J, Paz B, et al. (2003) Diagnosis of pregnancy-associated uterine venous plexus thrombosis on the basis of transvaginal sonography. *J Ultrasound Med* 22: 287-293. [Link: https://bit.ly/3wRc4rX](https://bit.ly/3wRc4rX)
5. Mavrelou D, Cohen H, Pateman K, Hoo W, Foo X, et al. (2013) Diagnosis of uterine vein thrombosis on transvaginal ultrasound. *Ultrasound Obstet Gynecol* 42: 480-483. [Link: https://bit.ly/3sdN9eF](https://bit.ly/3sdN9eF)
6. Bendek B, Afuaepe N, Banks E, Desai NA (2020) Comprehensive review of pelvic congestion syndrome: causes, symptoms, treatment options. *Curr Opin Obstet Gynecol* 32: 237-242. [Link: https://bit.ly/3thXxU9](https://bit.ly/3thXxU9)
7. Borghi C, Dell'Atti L (2016) Pelvic congestion syndrome: the current state of the literature. *Arch Gynecol Obstet* 293: 291-301. [Link: https://bit.ly/3sgdHfi](https://bit.ly/3sgdHfi)
8. Labropoulos N, Jasinski PT, Adrahtas D, Gasparis AP, Meissner MH (2017) A standardized ultrasound approach to pelvic congestion syndrome. *Phlebology* 32: 608-619. [Link: https://bit.ly/3dgy0VS](https://bit.ly/3dgy0VS)
9. Antignani PL, Lazarashvili Z, Monedero JL, Ezpeleta SZ, Whiteley MS, et al. (2019) Diagnosis and treatment of pelvic congestion syndrome: UIP consensus document. *Int Angiol* 38: 265-283. [Link: https://bit.ly/3mMplI8](https://bit.ly/3mMplI8)
10. Whiteley MS, Dos Santos SJ, Harrison CC, Holdstock JM, Lopez AJ (2015) Transvaginal duplex ultrasonography appears to be the gold standard investigation for the haemodynamic evaluation of pelvic venous reflux in the ovarian and internal iliac veins in women. *Phlebology* 30: 706-713. [Link: https://bit.ly/32al4dx](https://bit.ly/32al4dx)

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