



## Ovarian Vein Thrombosis – Computerized Tomography Diagnosis

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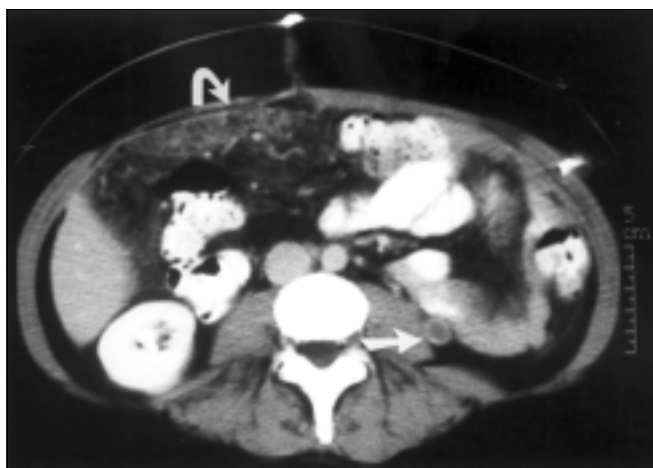
“Modern imaging technology has made it easier to diagnose the once-elusive ovarian vein thrombosis” [1]

A 43 year old woman underwent splenectomy because of multiple splenic abscesses that had persisted for several weeks despite antibiotic treatment. At the same session, a total abdominal hysterectomy for a myomatous uterus, bilateral salpingectomy and resection of a left dermoid cyst were performed. The postoperative course was characterized by fever reaching 39°C. Although blood and urine cultures were negative, antibiotic treatment was administered. On the sixth postoperative day an abdominal CT study revealed a tubular structure with a hypodense center in the retroperitoneum [Figure A] characteristic of a thrombosed left ovarian vein.

The thrombus was seen to extend into the left renal vein at the confluence of the left ovarian and the renal vein [Figure B]. Other findings included a small fluid collection in the area of the splenic bed, with a drain left at surgery, and infiltration of the mesenteric fat [Figure A], compatible with either an infectious process or talc peritonitis. Anticoagulation was started in addition to the antibiotic treatment. The fever resolved and the patient was discharged in good condition on the 14th post-operative day with recommendation to continue both anticoagulant and antibiotic treatment.

Ovarian vein thrombosis is a well-known, rare but serious postpartum complication [2–4]. It is attributed to venous stasis after childbirth as well as

to other factors [2], and may also be associated with other disease processes with a widely varying symptomatology [3]. Status post-extensive gynecological surgery for malignancy has been reported as the second most common cause [2,3]. In this setting, OVT seems to be an incidental finding, unlike puerperal OVT. In a recent study, 40 of 50 patients who underwent this surgical procedure developed OVT that had not been present on pre-operative CT [2]. Thrombosis was unilateral in all 40 patients, involving the right ovarian vein in 75%. This right predominance in OVT is well known [5]. Despite radiological evidence of OVT, none of the patients had clinical symptoms or signs related to OVT or pulmonary embolism. The patients were not treated with



**[A]** Contrast-enhanced CT shows a hypodense filling defect within the left ovarian vein (arrow), characteristic of ovarian vein thrombosis. There is also infiltration of the mesenteric fat in the right abdomen (curved arrow), representing an inflammatory process not related to the thrombus.



**[B]** On a more cranial section, a hypodense filling defect in the left renal vein is seen (arrow), representing the extension of the thrombus at the confluence of the left ovarian vein into the renal vein.

anticoagulants and the authors concluded that OVT in this situation is of no practical clinical significance [2]. A follow-up CT was performed 3–24 months after the diagnosis in 50% of these patients and the thrombus remained unchanged in all [2].

OVT has also been reported in oncology patients who have not undergone surgery [5]. This association is probably due to thrombogenic effects of malignancy and chemotherapy [5]. OVT also develops in patients with pelvic inflammatory disease, probably as a result of ascending thrombophlebitis [5], after cholecystectomy [3] or in Crohn's disease [1].

The postoperative fever in our patient could have resulted either from the fluid collection in the splenic bed or from the mesenteric inflammatory process. It is therefore not possible to establish whether the OVT was an incidental

finding or whether it contributed to the patient's symptoms.

CT is considered the modality of choice for the identification of this underdiagnosed entity [6], although other modalities such as color Doppler ultrasound and magnetic resonance imaging have also been used [3,4,6,7]. The diagnosis of OVT on CT is suggested in the presence of a hyper- or isodense clot relative to the venous wall on an unenhanced study, and a low density filling defect on a contrast-enhanced CT. Enlargement of the ovarian vein and signs of perivascular edema may also be present [2,4].

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## References

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