

Interesting case of incidentaloma vs ovarian vein thrombosis
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A 52 year-old perimenopausal female presented to the emergency department for incidental finding of right gonadal vein thrombophlebitis noted on outpatient CT abdomen and pelvis ordered for right lower quadrant abdominal pain for eight months. Patient had isolated complaint of right lower quadrant abdominal pain that through further inquiry was determined to be referred from her right hip. Patient had had an abnormal gait for the last eight months due to plantar fasciitis and as a result had developed right hip pain due to poor walking mechanics. She denied fevers, chills, nausea, vomiting, gastrointestinal symptoms, genitourinary symptoms, and any other complaints. Generally she is well appearing with benign abdominal exam. Right hip and abdominal pain is reproducible with gait but otherwise unremarkable. Workup for her possible right lower quadrant abdominal pain showed no leukocytosis, normal abdominal labs, unremarkable transvaginal pelvic ultrasound, and otherwise unremarkable CT. However, with a CT read of right gonadal vein thrombophlebitis noted, the question remains what, if any, further management is warranted.

Ovarian vein thrombosis (OVT) is most commonly seen **within one week postpartum**. Other associations are much rarer but do exist in the literature including pelvic inflammatory disease, inflammatory bowel disease, sepsis, recent pelvic or abdominal surgery, and malignancies. Idiopathic OVT has also been reported in the literature. Similar to other disease states that fall under the umbrella of venous thromboembolism, Virchow's triad (vessel wall injury, stasis, and hypercoagulable state) predisposes patients to thrombus development. Interestingly, the **right gonadal vein** is involved in 70-90% of the cases. It's hypothesized that the right ovarian vein is longer than the left and lacks competent valves which predisposes the vessel to venous stasis. Potential life-threatening complications associated with ovarian vein thrombosis include **extension of the thrombus into the inferior vena cava and renal veins, pulmonary embolism, ureteral obstruction, sepsis, and even death**.

OVT can resolve spontaneously and there is some argument within the literature **whether treatment of isolated OVT is necessary**. However, given the potentially life-threatening complications, anticoagulation seems reasonable. In OVT, the risk of pulmonary embolism is **2%** and the rate of recurrence of 3 per 100 patient years of follow up is comparable to patients with lower extremity deep vein thrombosis (DVT). There are no definite guidelines regarding the duration of anticoagulation therapy but with the comparable incidence as lower extremity DVT, **some authors have suggested the application of lower extremity DVT guidelines to the treatment of OVT**. In the literature, the average treatment with warfarin was 5.3 and 6.9 months for OVT and lower extremity DVT, respectively. However, based on most recent American College of Chest Physicians guidelines, the recommended length of anticoagulation is 3 months with warfarin for first incidence of DVT regardless of risk factors or cause. Evaluation for malignancy and hypercoagulable disorders is also needed in the patient with what appears to be idiopathic ovarian vein thrombosis. In these patients, anticoagulation may need to be life-long. In rare cases, an inferior vena cava filter and/or surgical intervention to ligate the ovarian vein have also been performed.

Septic pelvic thrombophlebitis is characterized by inflammation of the pelvic veins with an infected thrombus. Many organisms have been associated with septic pelvic thrombophlebitis including Streptococcus, Proteus, Staphylococcus, Bacteroides, and Gram-negative rods (Escherichia coli, Enterobacter, and Klebsiella). Generally these patients are clinically ill with

fever, abdominal pain, pelvic tenderness and/or gastrointestinal symptoms. These patients require **both broad-spectrum antibiotics and anticoagulation**. Intravenous agents such as clindamycin and gentamicin, imipenem/cilastatin, ampicillin/sulbactam, or single-agent therapy with a second- or third-generation cephalosporin are appropriate in treating septic pelvic thrombosis. Anticoagulation, often with heparin has helped to decrease the incidence of septic emboli and hasten fever resolution. Typically antibiotics and anticoagulation is continued until patient has been afebrile for 24-48 hours. However, no guidelines exist for an ideal length of treatment.

In this 52 year-old perimenopausal female with a CT read of right gonadal vein thrombophlebitis, this may have been an incidental finding or may be the source of her right hip and right lower quadrant pain. Regardless, she was well appearing with no suggestion of septic pelvic thrombophlebitis. She was treated as an idiopathic ovarian vein thrombosis and the decision was made to start the patient on warfarin with lovenox bridging. Patient was set up for follow up in anticoagulation clinic and with her primary care provider for further hypercoagulability and malignancy work-up.

References / Further Reading

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