



# Vascular HealthCare

Leading the way.

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## The Guide Wire

### Iliac Vein Compression and Ovarian Vein Incompetence (Pelvic Venous Congestion Syndrome)

#### Pelvic Venous Congestion and Ovarian Vein Incompetence

Pelvic venous congestion syndrome (PVCS) is a cause of chronic pelvic pain in approximately 13-40% of women. It results from reflux, or retrograde flow, of blood in the ovarian vein, affecting the left side more than the right.

Chronic pelvic pain is pain in the lower abdomen which has been present for >6 months. PVCS is one of the most commonly missed and potentially treatable causes of chronic pelvic and abdominal pain. It is more common in pre-menopausal, multi-parous women - young females with 2 or more pregnancies.

Pressure from PVCS may also cause visible varicosities around the vulva, vagina, inner thigh and buttock. These can often be considered as the female equivalent of a testicular varicocele. Ovarian vein incompetence can be a common cause of recurrent varicosities in the lower limbs.

#### Causes of Ovarian vein incompetence include:

- Venous obstruction, such as a retro-aortic left renal vein
- Compression of the left renal vein by the aorta superior mesenteric artery ("Nutcracker Syndrome")
- Incompetent or absent valve at confluence of left renal and left ovarian vein.

#### Signs and symptoms of PVCS

Symptoms of PVCS are due to dilated pelvic veins as a result of ovarian vein reflux. Symptoms include:

- Pelvic pain and aching, often dull.
- Sensation of heaviness in the pelvis.
- Feeling of fullness in the legs.
- Worsening of stress incompetence.
- Worsening of symptoms associated with irritable bowel syndrome.

Diagnosis is made clinically by experiencing relative symptoms commonly associated with varicose veins around the vulva, groin and upper, inner thighs. These may be visible or physically palpable.

Ultrasound findings include a dilated ovarian vein of >5mm in diameter (positive predictor of 71-83%) with demonstration of retrograde flow, often demonstrated through the valsalva manoeuvre.

Treatment of incompetent ovarian veins is interventional, often performed with coiling or liquid sclerotherapy, or a combination of the two.

#### Iliac Vein Compression (May-Thurner Syndrome)

Iliac Vein Compression Syndrome (IVCS) occurs when the proximal segment of the right common iliac artery compresses the left common iliac vein (May-Thurner syndrome). Left common iliac vein compression is thought to be partially responsible for left-sided DVT and also left lower extremity pain and swelling. This predominately affects young women 20-40 years of age.

**The right common iliac artery causes partial compression of the left common iliac vein in two ways:**

- Mechanical obstruction – external compression of vein between artery and vertebral body.
- Extensive intimal hypertrophy of vein caused by the arterial pulse creating repeated compression of veins.
- Frequently, a combination of the above factors.

Ultrasound examination is able to assess the iliac veins to identify any thrombus, which may be obstructive, and examine venous diameters to measure extent of any compression that may be present. Venous flow volumes may also be performed. Flow velocities such as

those used in arterial evaluation are in general not useful in venous evaluation. The definitive mode of diagnosis is IVUS (intra-vascular ultrasound); which can confirm the presence of extrinsic compression, intrinsic narrowing from intimal hyperplasia, length and diameter of stenotic segment as well as that of the native non-diseased vein.

## Treatment

In the setting of lower extremity congestion without previous deep venous thrombosis, angioplasty and stenting of the left common iliac vein is the accepted intervention. If there is acute deep venous thrombosis present, thrombolysis of the clot should be performed as the initial step and once the acute thrombus has been cleared, revealing the left common iliac vein stenosis, this can then be sized and stented.



Coils in previously embolized left ovarian vein.

Right common iliac artery (shadow) compressing left common iliac vein (May-Thurner Syndrome).

Cross pelvic collaterals from left iliac system via internal vein to right iliac system.

### Ultrasound Information

Specialist vascular ultrasound provider. Doppler assessment of upper and lower limb arteries and veins (DVT and venous incompetence), carotid and renal arteries, abdominal aortic aneurysm, and iliac and ovarian venous incompetence.

#### Ultrasound

Phone 1300 662 227

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