

Title	Chronic pelvic pain due to venous disease: an under-recognized condition
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Publication date	2025-05-19
Original Citation	Brady, A.P. (2025) 'Chronic pelvic pain due to venous disease: an under-recognized condition', Canadian Association of Radiologists Journal, 08465371251342710 (2pp). https://doi.org/10.1177/08465371251342710
Type of publication	Article (peer-reviewed)
Link to publisher's version	https://journals.sagepub.com/doi/epub/10.1177/08465371251342710 - 10.1177/08465371251342710
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Download date	2026-10-28 16:30:16
Item downloaded from	https://hdl.handle.net/10468/17603

Canadian Association of Radiologists Journal

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Journal:	<i>Canadian Association of Radiologists Journal</i>
Manuscript ID	Draft
Manuscript Type:	Editorial
Abstract:	

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Chronic pelvic pain due to venous disease; an under-recognised condition.

Chronic pelvic pain (with a reported worldwide prevalence of 26% of women) is a common symptom, accounting for a substantial proportion of visits to gynaecological clinics, and impacting greatly on quality of life for those affected. While many potential causes exist for chronic pelvic pain, one group of patients suffer as a result of disorders affecting pelvic veins, often referred to as pelvic venous disease or insufficiency, or pelvic congestion syndrome [1]. Pelvic congestion syndrome was first described in 1857 by French anatomist and surgeon, Louis-Alfred Richet; its characteristics are chronic, dull pelvic pain, pressure and heaviness, persisting for more than 6 months, with no other cause. [2].

In this issue of the CARJ, Moosa et al elegantly review the pathophysiology, imaging characteristics and diagnosis, and potential radiological approaches to management of venous disease causing chronic pelvic pain [1]. Common to all variations of pelvic venous disease is loss of function of normal valves in veins draining from the pelvis to the left renal vein and inferior vena cava, often exacerbated by hormonal influences and the haemodynamic consequences of pregnancy. This leads to inadequate drainage cranially from pelvic veins, with resulting venous dilation and hypertension, and nociceptor activation leading to the perception of pain. The analogue in males, due to similar anatomical and pathophysiological processes, is varicocele development (especially left-sided).

Pelvic venous dysfunction is often underdiagnosed, both clinically and radiologically, as a result of insufficient awareness of the basis for the condition, and of the typical imaging features. Requests for pelvic ultrasound are common in women presenting with non-specific pelvic symptoms; imaging usually focuses on seeking abnormalities in the uterus and ovaries. However, if the operator is aware of pelvic venous insufficiency as a possible cause for symptoms, dilated pelvic veins and prolonged reflux within ovarian veins can be easily identified, and can suggest the diagnosis. CT can similarly identify pelvic venous dilation, and also venous compression (e.g. May-Thurner syndrome, also a potential cause of left leg deep venous thrombosis, or nutcracker syndrome, where the left renal vein is compressed by the superior mesenteric artery [3]) which can lead to pelvic venous congestion. MR (without, or, ideally, with gadolinium enhancement) provides similar information. Moosa and colleague helpfully provide specific protocol suggestions for CT and MR imaging, to optimise detection of pelvic venous disease.

Venography is now predominantly reserved for those cases where interventional techniques are being considered to treat the patient's venous insufficiency (and, thus, her symptoms). Nonetheless, selective venography remains the gold standard for diagnosing pelvic venous disease, especially when one bears in mind that venous diameter on cross-sectional imaging does not correlate directly with symptoms or even with the presence of venous reflux. Large diameter veins do not always reflux, while small veins may do so. Additionally, competent ovarian veins may be made functionally incompetent by large perirenal or retroperitoneal incompetent veins (outside the range of pelvic ultrasound imaging) [3].

Interventional treatment of incompetent pelvic veins can be achieved from above or below. Experts have indicated a higher success rate with right internal jugular vein access than with right femoral vein access (mimicking this author's extensive experience with varicocele embolization), due to the more-direct route into the left renal and pelvic veins and the lower likelihood of catheter displacement peri-procedurally [3]. Coils, glue, foam or liquid sclerosants can be used, alone or in combination with one another, as embolization agents. As with varicocele management (testicular vein embolization), it is best to embolize as much of the entire length of the incompetent vein as possible, in order to minimize the risk of recurrence through subsequent enlargement of collateral draining veins [3,4]. Several studies have shown impressive success rates from embolization, in terms of controlling symptoms [3,5], with no demonstrable change in treated women's menstrual cycles, and therefore, presumably, no adverse consequences for fertility. Nonetheless, clinical advice is usually to defer treatment until the patient's family is complete, if possible [3].

In cases due to rarer compressive causes of pelvic venous congestion, venous stenting of the compressed vein (left common iliac in the case of May-Thurner syndrome, left renal in the case of nutcracker syndrome) has been shown to reduce or eliminate symptoms in >70% [6] in nutcracker syndrome. The symptom relief rate is only 17% of patients in May-Thurner syndrome, if stenting is used alone, with an increase in symptom relief to 83% when stenting is used in combination with gonadal vein embolization [7].

Imaging appearances alone, of course, do not constitute a diagnosis. Prominent pelvic veins are a common finding in asymptomatic women having cross-sectional imaging for other reasons. Empirical treatment of imaging findings without symptom correlation is inadvisable, and before undertaking any management steps, it is imperative that the patient be fully assessed to ensure their symptoms are congruent with imaging findings. This requires multidisciplinary care, involving both the referrer and the radiologist. In their paper, Moosa and colleagues have provided a useful and clear account of the relevant imaging investigative pathways and findings, to inform this patient-focused care.

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