

Pelvic congestion syndrome masquerading as osteoarthritis of the hip

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Abstract

Objectives: Pelvic congestion syndrome (PCS) is associated with pelvic vein reflux (PVR), occasionally secondary to venous compression. Its symptoms, usually intra-pelvic, are alleviated following the abolition of this reflux by pelvic vein embolisation (PVE). The objective of this report is to present two cases of left hip pain, erroneously diagnosed as osteoarthritis, which disappeared after successful PVE and abolition of PVR.

Methods: Two females presented with lower limb varicose veins, and also had a history of left-sided hip pain. Both had previously been investigated for the hip pain and diagnosed as osteoarthritis despite minimal arthritic changes on pelvic X-rays. During investigation for lower limb varicose veins, both showed a pelvic origin for their leg veins and hence underwent transvaginal duplex ultrasound. This revealed PVR, and PVE was planned in both patients.

Results: Both patients underwent PVE and reported 'miraculous' resolution of left hip pain and also PCS symptoms including pelvic pain, irritable bowel issues and the disappearance of pelvic dragging, with almost immediate disappearance of vulval and vaginal varicosities. One patient also noted reduced clitoral sensitivity.

Conclusion: Manifestations of PCS may vary in terms of intra- or extra-pelvic signs. PCS and PVR should be considered in the differential diagnosis of patients with arthritic symptoms in the hip without evident radiographic evidence.

Keywords

Osteoarthritis, pelvic congestion syndrome, pelvic vein embolisation, pelvic vein reflux

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Introduction

Pelvic congestion syndrome (PCS) is widely considered to be a potential cause of chronic pelvic pain (CPP), prevalent in 10%–30% of patients presenting with the condition.¹ Congestion in the pelvis has long been associated with pelvic venous reflux, with females who demonstrate reflux in the ovarian or internal iliac veins at risk of developing PCS.² Alternatively, venous compression syndromes (e.g. May–Thurner or Nutcracker) may also result in secondary congestion and cause reflux in the vein distal to the compressive lesion. The syndrome manifests as a variety of different intra-pelvic symptoms, with patients typically reporting a non-cyclical ache in the pelvis (although symptoms can be cyclical, usually worse around menstruation) accompanied by irritable bowel, increased frequency of urination and dyspareunia. However, all of these symptoms are intra-pelvic; extra-pelvic manifestations of the condition include vulval varicose veins,³ primary and recurrent reflux in the lower limbs leading to varicose veins^{3,4} and haemorrhoids⁵ (particularly in the presence of internal iliac vein reflux).

The paucity of knowledge regarding CPP had left many patients with a vague diagnosis and poor prognosis, until the

advent of pelvic vein embolisation (PVE) to treat PCS.⁶ Metal coils were inserted bilaterally into the ovarian veins of a 40-year-old female, resulting in the cessation of reflux and relief of symptoms. In the following years, PVE was adopted as a treatment for the condition and is known to be a safe solution to PCS, with good clinical outcomes up to 8 years following embolisation.^{7,8} Despite this, some workers in the field believe that PCS has psychological origins and psychiatric assessment is often recommended.⁹

Recently, we have treated two patients for pelvic congestion, both of whom had previously complained of left-sided hip pain which had been diagnosed as osteoarthritis of the hip; neither had been given an adequate explanation for their other intra-pelvic symptoms. Therefore, we present a small case series of female patients in which PCS was found to be

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Table 1. Demographics and clinical presentation of both patients with duplex ultrasound findings.

Age	Parity	Leg DUS	IPVs	TVUS
53	2	L GSV	1	L OV, B IIV, vulval/labial varices
40	3	B GSV, R SSV, R Giacomini	4	L OV, B IIV, vulval/labial varices

L: left; R: right; B: bilateral; GSV: great saphenous vein; SSV: small saphenous vein; OV: ovarian vein; IIV: internal iliac vein; DUS: duplex ultrasonography; IPV: incompetent perforating vein; TVUS: transvaginal duplex ultrasonography.

the underlying cause of hip pain after an initial misdiagnosis of osteoarthritis.

Patients and methods

Two patients presented to our specialist venous unit between November 2015 and February 2016 complaining of a dragging sensation in the pelvis that worsened around the time of menstruation, irritable bladder/bowel, increased urinary frequency and left-sided hip pain. Both had previously been diagnosed elsewhere with osteoarthritis of the left hip, but pelvic X-ray showed minimal arthritic changes and no other evidence to account for the pain. Dyspareunia was reported by one patient; however, both patients had evident leg varicosities and telangiectasia, also noting tenderness and aching of their lower limb veins.

Duplex ultrasonography (DUS) of the legs revealed left-sided reflux in superficial truncal veins and a single incompetent perforating vein (IPV) in the calf of one patient and bilateral truncal reflux with numerous IPVs in the other (Table 1). Both patients demonstrated a significant pelvic contribution to their lower limb venous reflux, necessitating further investigation with transvaginal duplex ultrasonography (TVUS). This relatively non-invasive imaging modality allows for the visualisation of pathophysiological venous reflux in real-time. Our unit has previously suggested that TVUS can be considered the gold standard investigation for the investigation of reflux within the pelvic veins and that vein diameter does not indicate the presence of such reflux.^{10,11} On TVUS, reflux was diagnosed bilaterally in the internal iliac veins and also in the left ovarian vein, leading into vaginal wall and labial/para-vulval varices. No signs of venous compression syndromes were present, and phasic flow was demonstrated. Patients were subsequently treated with PVE by an interventional radiologist under local anaesthetic, using the diagnostic TVUS report to guide embolisation.

Following a right jugular vein puncture and cannulation with a 6F sheath, a multipurpose angiographic catheter was inserted under ultrasound guidance. The left ovarian and gonadal (pudendal and obturator) branches of both internal iliac veins were selectively catheterised and embolised using

a number of fibred interlock embolisation coils (Boston Scientific, Marlborough, MA, USA). Foamed sclerosant (3% sodium tetradecyl sulphate; Fibroven, STD Pharmaceutical Products, Herefordshire, UK) was also administered to aid in treatment of the internal iliac branches. Follow-up TVUS was performed 2–3 months following embolisation and patients planned to proceed with treatment of their lower limb venous reflux.

Results

At follow-up TVUS, both patients showed a complete elimination of all reflux, with coils visualised in situ within all embolised territories. Labial and proximal thigh veins persisted in one patient, but were promptly treated successfully with foam sclerotherapy.

Both patients reported immediate relief from all symptoms, with no recurrences following PVE. Indeed, one described the change as ‘miraculous’ and reported complete resolution of irritable bowel symptoms (diarrhoea and urgency) which she had previously not given any heed to and assumed to be normal following pregnancy. Most importantly, the hip pain that had prompted the initial diagnosis of osteoarthritis disappeared almost immediately in both patients after successful treatment with PVE.

While there were no immediate complications of PVE, one patient experienced a cardiac ‘fluttering’ sensation and ‘heartburn’ 2 days post-procedure. We have previously reported asymptomatic embolisation of coils to the pulmonary circulation¹² and therefore arranged for a chest X-ray to investigate this. No evidence of coil embolisation to the pulmonary circulation could be seen; both the lungs and pleural spaces were clear, with a normal cardiomeastinal contour.

Interestingly, the second patient reported a decrease in clitoral sensitivity to the point that orgasm through penetrative intercourse was impossible and she could only orgasm with difficulty in other ways. This was, by the patient’s own admission, possibly psychological, but will be monitored closely as the intra-pelvic phlebitis (secondary to PVE) settles down.

Discussion

The diagnosis of CPP and underlying PCS remains a controversial topic, with much argument surrounding around the purported psychosomatic versus pathophysiological aetiology of the condition. In any case, physicians should always be alert for symptoms indicating PCS when assessing patients presenting with pelvic pain and if suspected, should refer patients for further investigation.

Cases involving venous compression and obstruction such as May–Thurner or Nutcracker syndromes (iliac and renal vein compression, respectively) must be excluded before referring patients for PVE. While we remain confident that TVUS is the gold standard investigation for

assessing haemodynamic reflux in the pelvis, it will not identify patients with such conditions. As such, transabdominal DUS or other cross-sectional imaging may be needed if either of these obstructive diseases is suspected in all patients presenting with PCS and underlying pelvic vein reflux.

With regard to the safety of PVE, one patient reported an abnormal, transient chest ‘palpitation’, but this was shown not to be related to the embolisation procedure; no coils were seen within the pulmonary circulation on a chest X-ray, which showed a normal cardiomedastinal contour and clear pleural spaces. Previously, we have reported the embolisation of coils to the left descending pulmonary artery, associated with chest pains, dyspnoea and a vasovagal attack.¹² However, on that occasion, the coils were retrieved during transfemoral pulmonary venography and there were no further complications. This episode remains the only serious complication following embolisation in our total series of over 1500 embolisation procedures.

Prior to this report, the symptoms of PCS were mainly thought to be intra-pelvic, with the exception of low back pain and varicose veins, along with their associated symptoms. We highlight two cases of left-sided hip pain, erroneously diagnosed as osteoarthritis, as only minor changes were found on hip X-ray and no other cause could be found. PCS should be considered in women presenting with hip pain and minimal changes on X-ray, especially if there are concomitant symptoms of PCS.

Author contribution

S.J.D.S. helped in data analysis and writing of manuscript, M.S.W. helped in conception/design and data acquisition and all authors are responsible for critical revision of manuscript and approval for submission.

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Ethical approval

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Informed consent

Informed consent for patient information to be published in this article was not obtained because there is no information in this article that could be used to identify the patients.

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