Pelvic congestion syndrome-associated pelvic pain: a systematic review of diagnosis and management

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CRD summary
The review concluded there was no optimal diagnostic approach for female pelvic congestion syndrome, hormonal suppression treatments appeared effective in decreasing pain but venous ligation should not be performed with clinical trials. The conclusion relating to diagnostic tests seems reliable, but the poor quality evidence base and lack of robust review process suggest conclusions about effectiveness may be unreliable.

Authors' objectives
To evaluate the diagnosis and treatment of female pelvic congestion syndrome.

Searching
PubMed was searched to May 2009 for articles in English (search terms reported). Bibliographies of included studies, relevant review articles and textbooks were handsearched.

Study selection
Studies were eligible for inclusion if they included at least four participants, and either evaluated a diagnostic test for female pelvic congestion syndrome or reported on a treatment for this condition.

A small number of diagnostic studies were included; methods included pelvic ultrasound, transfundal venography or magnetic resonance venography. A larger number of treatment focused studies were included, but only three were comparative trials. Treatments assessed included gonadal hormonal suppression, vagomimetic agents, ovarian and pelvic vein embolisation, placement of renal vein stents or operative pelvic vein ligation. Few details were available on participant characteristics.

It was unclear how many reviewers performed study selection.

Assessment of study quality
Diagnostic studies were assessed for quality using the STAndards for the Reporting of Diagnostic accuracy studies (STARD) guidelines. It appeared that two reviewers independently assessed study quality.

Data extraction
Two reviewers independently extracted study characteristics, diagnostic test details where relevant and treatment outcomes. Disagreements were resolved by discussion.

Methods of synthesis
Data were presented in tables and text grouped according to diagnostic versus treatment studies. Treatment studies were subdivided as follows: hormonal/medical; percutaneous embotherapy; surgical management. Summary estimates could not be provided due to the heterogenous outcomes reported.

Results of the review
Six studies of 528 participants were included for the review of diagnostic tests. None of the studies met more than a quarter of the key STARD criteria and they were judged to be poorly designed. None of the studies were designed to calculate sensitivity or specificity, and three failed to use a reference standard other than pelvic pain (with no objective assessment of pathology).

The venographic and ultrasound studies appeared to suggest that mean ovarian vein diameter and appearance of tortuous veins were more common in pelvic pain patients; however, there was no agreements on cut-off levels or validated measures for congestion. There was no clear evidence to support the use of any of the tests described in the paper.
A total of 22 studies were included for the review of treatment approaches, of which at least three were randomised controlled trials (RCTs). Mean follow-up ranged from four months to 5.6 years.

**Hormonal/medical therapy**

Five studies (215 participants) reported on hormonal suppression treatments including three RCTs of which one was a cross-over design. The RCTs were well reported in comparison to the other studies. Four studies reported that pain according to a Visual Analogue Scale (VAS) was significantly decreased following treatment. The last study used a different outcome measure but also reported significant reduction in pain.

**Percutaneous embolotherapy**

12 studies in addition to one poorly reported RCT evaluated percutaneous vascular treatments. Women were treated with embolisation of ovarian and pelvic veins (using transcatheter insertion of steel coils, sclerosants or glue) in all but one study. The remaining study used renal vein stenting and angioplasty. Diagnostic criteria were rarely specified and objective outcomes were sparsely reported. Five studies reported VAS scale results with improvements of between 2.3 to 4.7 points reduction (on a 10 point scale). Some complications were reported.

**Surgical management**

Four studies including one RCT evaluated various surgical ligation techniques. Three studies used defined diagnostic criteria, and the two studies including hysterectomies reported VAS outcomes. Results varied across the studies in terms of reduction in pain and no clear conclusion could be drawn. Hysterectomy complication rates were not reported.

**Authors' conclusions**

The optimal diagnostic approach for female pelvic congestion syndrome was unclear. Hormonal suppression treatments appeared effective in decreasing pain symptoms, but further research was required. Venous ligation should not be performed with a clinical trial setting.

**CRD commentary**

This review addressed two broad questions with minimally defined inclusion criteria. Only one database was searched for papers in English so it was unclear whether all relevant studies were identified. The review processes were poorly reported throughout and study details were sparsely reported. Only the diagnostic studies were assessed for quality (without reference to a validated scale), and it appeared that most of the included papers were of a poor standard. The synthesis was difficult to follow in places and did not always state overall findings.

The conclusion that current diagnostic criteria is insufficiently evidence-based seems reliable and reflective of the available evidence, however findings relating to the review of treatments cannot be considered reliable given the failings in the review process and apparent weaknesses in the available evidence.

**Implications of the review for practice and research**

**Practice**: The authors stated that until further trials were published, venous litigation should only be performed in the context of a clinical cohort study to avoid missing other treatable pain generators. The present reliance on the Beard et al (1984) venographic criteria for diagnosis should be recognised as potentially unreliable and not evidence-based.

**Research**: The authors recommended controlled trials that compared embolotherapy versus hormonal or other non-invasive treatments for female pelvic congestion syndrome and associated pelvic pain were urgently needed.

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Not reported.

**Bibliographic details**

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.