Embolization Has a Major Role In Treatment of Varicocele and Pelvic Congestion Syndrome
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Gonadal vein reflux is a common, frequently normal finding in both men and women. In men it results in a varicocele, in women it is now termed pelvic venous insufficiency (PVI). If there is otherwise unexplained chronic pelvic pain the symptom complex due to pelvic venous insufficiency is termed pelvic congestion syndrome. Increasingly, PVI is recognized as a cause of lower limb varicosities, either in non-truncal distributions or recurrent after treatment.

1. VARICOCELES
A. Should varicoceles be treated at all?
Indications for treatment include:
1. Infertility – this is the most common and the most controversial indication for treatment. The reported frequency of varicoceles in the general adult male population ranges from 9 to 22.9% (mean reported incidence 13.4%) but they are found in 37% of infertile men. A Cochrane review of all existing data was conducted in 2012. The authors’ conclusions were “There is evidence suggesting that treatment of a varicocele in men from couples with otherwise unexplained subfertility may improve a couple’s chance of pregnancy. However, findings are inconclusive as the quality of the available evidence is very low and more research is needed with live birth or pregnancy rate as the primary outcome.

Our approach is to advise patients that there is a controversy, that the data is difficult to assessing the data, and that the data tends to support spermatic vein treatment if there are not overwhelming female factors. In addition, in conjunction with infertility specialists we will treat patients with nonobstructive azospermia, as this may allow spermatid retrieval from the testis, and patients with very low sperm counts which may optimize assisted fertility procedures.

2. Symptomatic Varicocele – There is no debate that repair is indicated for symptomatic varicoceles. However, groin pain is notoriously difficult to assess, and there are many causes, all of which appear to have variable and overlapping manifestations. In this setting, 89% of men report improvement or resolution of their chronic groin pain after varicocele treatment.

B. Varicocele Embolization versus surgery
Surgery usually involves a general aesthetic and if open, an incision. Surgical ligation and embolic occlusion achieve similar pregnancy rates. The principal advantage of varicocele embolization in comparison to surgery is that it is an outpatient procedure performed under local anaesthetic, thus the patient is almost always able to work the following day and can expect to resume his normal range of athletic activities in less than a week. In our experience patients miss a mean of 1.78 days (range 0 – 10) from work and 4.5 days (range 1 – 10) from full physical
activity (including the day of the procedure) after varicocele embolization. In studies where patients have undergone both surgery and embolization, they have expressed a strong preference for embolisation. There are conflicting studies as to whether embolization or surgery is a more expensive therapy for varicocele, but when time off work is factored in embolization may be much more cost effective for the patient.

2. PELVIC CONGESTION SYNDROME
Varicosities in the pelvis secondary to ovarian vein reflux are a recognized cause of chronic pelvic pain. Largely because they are frequently seen incidentally on imaging studies in asymptomatic women, pelvic congestion syndrome remains a poorly understood entity whose existence, let alone appropriate methods of investigation and treatment, are still under legitimate question. As is the case with symptomatic male varicoceles (a well accepted clinical entity), it is not clear why some patients with gonadal venous reflux have pain when the majority don’t.

The largest published series of patients with pelvic congestion syndrome treated by endovascular therapy includes 202 patients with pelvic pain selected from a population of patients with lower extremity venous insufficiency. These authors utilized coil occlusion alone, with the intention to treat all refluxing veins including both ovarian and appropriate branches of both iliac veins. Clinical benefit was seen in 94% of patients utilizing a visual analog scale (VAS) pain questionnaire. Lasting and significant benefit was documented with VAS pain scores in the 89% of patients who were followed for 5 years.

A prospective study of percutaneous endovascular versus surgical therapies randomized 106 women to ovarian vein embolization, hysterectomy with bilateral oophorectomy, or hysterectomy with unilateral oophorectomy. Embolization was found to be significantly more effective at reducing pelvic pain compared to surgery, except for those patients with the highest stress scores.

Summary
Varicocele embolization is the quintessential interventional radiologic procedure achieving at least the same outcomes as surgery with shorter recovery and less frequent and severe side effects. While not every patient with a varicocele requires therapy, varicocele embolization is potentially a common procedure.

Gonadal embolization in women, while still controversial for chronic pelvic pain, is becoming increasingly common as an adjunct to treatment of lower extremity varicosities.

References


