PELVIC CONGESTION SYNDROME

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OBJECTIVES

• BACKGROUND
• PATHOPHYSIOLOGY
• SYMPTOM COMPLEX
• EVALUATION AND RX OPTIONS
• INDICATION FOR EMBOLOTHERAPY
• RESULTS
PELVIC CONGESTION SYNDROME

- 1857 – Richet: Chronic pelvic pain → Pelvic varicosities
- 1938 – Association → Pelvic pain and varicosities
- 75% of females with chronic pelvic pain have no diagnosis
- 15% → No ovarian vein valves on the left
- 6% → No ovarian vein valves on the right
- 35-43% → Ovarian vein valvular incompetence
PELVIC CONGESTION SYNDROME

- Ovarian vein valvular incompetence
- Pelvic varices
- Appropriate symptoms
- Analogous to varicoceles, but more difficult to diagnose
- Pelvic venous anatomy more complex in females
- Pelvic varices → seen in up to 15% of women, most asymptomatic
PELVIC VENOUS DRAINAGE

• Ovarian veins → collaterals to IMV
• Common and external iliac veins
• Internal iliac veins
  - visceral veins (clitoral, labial, vaginal, uterine, vesical, and rectal)
  - parietal veins (iliolumbar, sacral, gluteal, and obturator)
PELVIC CONGESTION SYNDROME

SYMPTOM COMPLEX

• PELVIC PAIN/PRESSURE → CHRONIC
• DYSPAREUNIA
• MENORRHAGIA
• SXS CAN BE EXACERBATED BY
  PREGNANCY
  MENSTRUATION
  UPRIGHT POSITION
• UPPER THIGH PAIN
PELVIC CONGESTION SYNDROME

Diagnostic Evaluation

- Ultrasound – Sens = 20-53%
- CT – Sens < 20%
- MRI – Sens = 59%
- Venography = Gold standard
- Laparoscopy – Sens = 20-40%

Ultrasound

Color flow
Duplex

CT
PELVIC CONGESTION SYNDROME

14 yo WITH PELVIC PAIN AND VULVAR VARICOSITIES

SAGITAL MRI

CORONAL MRI
RIGHT GONADAL VEIN VENOGRAM
PELVIC CONGESTION SYNDROME

DIAGNOSIS

• HISTORY/SYMPTOM COMPLEX

• DETECTION OF PELVIC VARICOSITIES
  PHYSICAL, LAPAROSCOPY, CT, US, MRI

• OVARIAN AND INT ILIAC VENOGRAPHY
  INCOMPETENT VALVES
  PELVIC VARICOSITIES
  CROSS MIDLINE FILLING
  VENOUS ENGORGEMENT
  VULVAR/THIGH VARICOSITIES
Color flow Duplex

Venogram

MRI
PELVIC CONGESTION SYNDROME

TREATMENT

• Medical → Gn RH analog

• Surgery → Ligation of ovarian veins (open or laparoscopic) – challenging with recurrences
  

• Surgery → Hysterectomy - residual pain in 33% and 20% recurrence
  

• IR → Embolization
PELVIC CONGESTION SYNDROME

Analogous to varicoceles

- Valvular incompetence
- Varices of the pampiniform plexus
- Pain +/- or infertility (effect on sperm)
- Easy to diagnose by clinical exam
- Venography and embolization
- 85% clinical efficacy
VENOUS EMBOLIZATION

PROCEDURE

- OUTPATIENT → 23 HOUR OVERNIGHT STAY
- PERFORM AFTER MENSES
- TECHNICAL ASPECT → 2 HOURS
- POST-EMBOLIZATION PAIN AND NAUSEA
  - PCA PUMP
  - NSAIDS
  - ANTI-EMETICS
- OUT OF WORK 2-5 DAYS
- RESUME NORMAL ACTIVITY → 7-14 DAYS

PELVIC CONGESTION SYNDROME
OVARIAN VEIN EMBOLIZATION
PELVIC CONGESTION SYNDROME

14 YO WITH PELVIC PAIN AND VULVAR VARICOSITIES

LEFT OVARIAN VENOGRAM
PELVIC CONGESTION SYNDROME

RIGHT OVARIAN VENOGRAM

EMBOLOATHERAPY
PELVIC CONGESTION SYNDROME

- 3 MOS F/U
- NO PAIN
- NO VULVAR VEINS

POST-EMBO
PELVIC CONGESTION SYNDROME


- N = 19 pts with chronic pelvic pain
- Coils and glue
- 11/19 (58%) had complete relief
- 3/19 (16%) had partial relief
- Mean clinical follow-up of 15.4 months


- N = 33 pts with 6 and 12 mos f/u
- Sclerosant used for embo
- 100% significant relief of pain
PELVIC CONGESTION SYNDROME

Maleux et al. JVIR 2000; 11: 859-64

- N = 41 (32 unilateral and bilateral glue embo)
- 58.5% Sxs relieved; 9.7% Partial relief
- F/U → 19.9 months


- N = 23 → CHRONIC PAIN (MEAN = 3.9 yrs)
- 78% (18/23) IMPROVED, 9% (2/23) WORSE
- F/U → 1 - 55mos (MEAN = 15 mos)

EMBOLOTHERAPY
28 YO FEMALE WITH PELVIC PAIN WORSE DURING MENSES, DYSPAREUNIA, AND VISIBLE PERINEAL VARICOSITIES
INCOMPETENT LEFT GONADAL VEIN WITH REFLUX INTO PELVIC VARICES; RIGHT GONADAL VEIN COMPETENT AND UNABLE TO CATHETERIZE
LEFT GONADAL VEIN EMBOLIZATION
RECURRENT SYMPTOMS 12 MOS LATER; MRI SHOWS PELVIC VARICOSITIES
LEFT GONADAL VEIN OCCLUDED; UNABLE TO FIND RIGHT GONADAL VEIN;
RIGHT INTERNAL ILIAC VENOGRAM
LEFT INTERNAL ILIAC VENOGRAM; VARICOSITIES IDENTIFIED; EMBOLIZED WITH 1.5% SOTRADECHEOL

POST-EMBO STASIS
PELVIC CONGESTION SYNDROME

Kim et al. JVIR 2006; in press.

• N = 131 patients chronic pelvic pain
• Mean age = 34.0 +/- 12.5 yrs
• 80/127 (63%) nulliparous
• 16/40 (40%) had “+” laparoscopy
• 41/70 (59%) had “+” MRIs
• N = 127 venography confirmed varices
• 127/127 technically successful embo using sodium morrhuate, gelfoam and coils
PELVIC CONGESTION SYNDROME

Kim et al. JVIR 2006; in press.

- Mean clinical f/u = 45 +/- 18 mos
- Visual analog scale (VAS) for pain
  - VAS pre = 7.6 +/- 1.8
  - VAS post = 2.9 +/- 2.8 (p < 0.000001)
- Dyspareunia, # pain meds, pain, urinary sxns all improved (p < 0.0001)
- 83% improved, 13% no change, 4% worse
- 80% significant, 14% moderate improvement
PELVIC CONGESTION SYNDROME

Kim et al. JVIR 2006; in press.

- Improvement noted even when varices not initially seen on MRI or at laparoscopy
- 25 pts had prior hysterectomy for pain – 24 had varices, embolized, and improved (p< 0.000001)
- Recurrence rate of 5%
- No change in FSH, LH, or estradiol
- No long-term complications (coils migrated)
PELVIC CONGESTION SYNDROME

EMBOLOThERAPy – Potential Complications

• ALLERGIC RXN TO CONTRAST OR MED
• HEMATOMA
• PUNCTURE SITE THROMBOSIS
• COIL MIGRATION (retrieve)
• DVT and/or PULMONARY EMBOLUS
• POST-EMBO PAIN (PHLEBITIS)
• NO KNOW ADVERSE EFFECT ON MENSES OR ABILITY TO CONCEIVE
PELVIC CONGESTION SYNDROME

PELVIC VENOUS INSUFFICIENCY

- CHRONIC PELVIC PAIN – LARGE % UNDIAGNOSED
- SUSPICION FOR PELVIC VENOUS INSUFFICIENCY
  HISTORY
  EXAM (UPRIGHT IF POSSIBLE)
  IMAGING STUDY (MRI AND OR US)
  LAPAROSCOPY
- OVARIAN VENOGRAM (GOLD STANDARD FOR DX)
- 75-80% SUCCESS RATE FOLLOWING EMBOLIZATION*

* MAY REQUIRE MULTIPLE RX SESSIONS
PELVIC CONGESTION SYNDROME

EMBOLOOTHERAPY

- OUTPATIENT PROCEDURE
- NO APPARENT EFFECT ON FERTILITY
- PAIN MAY INITIALLY INCREASE
- MOST RESPOND WITHIN 6-12 WEEKS
- MAY NEED BILATERAL OR REPEAT EMBO
- ANALOGOUS TO VARICOCELES
- COMPLICATIONS ARE RARE