Ovarian Vein Incompetence Or Renal Vein Compression

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Faculty Disclosure
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Pelvic Congestion Syndrome

1. pelvic pain
2. dyspareunia
3. dysmenorrhea
4. dysuria
5. vulval congestion (with or without vulval varices)

Nutcracker Syndrome

Entrapment of the left renal vein by SMA
Classic triad:
1. hematuria
2. varicocele
3. left abdominal or flank pain

Nutcracker syndrome is flank pain with hematuria
Elevated left renal vein pressure

Diagnosis – CT/MR

El Sadr AR, Int Urol Nephrol. 1990
De Schepper AJ, Belg Rad. 1972
Zerhouni EA, J Urol. 1980


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Diagnosis – Venography

Pressure Gradient >2 mmHg (normal 0-1 mmHg) (very with hydration & collateralization)

Barnes RW, J Vasc Surg 1988

Endovascular stent placement as a treatment for renal venous hypertension

Neste MG, J Vasc Interv Radiol 1996

The nutcracker syndrome: Its role in the pelvic venous disorders

J Vasc Surg 2001;34:812-9

9 pts with symptoms of pelvic congestion, microscopic hematuria, and left-sided flank pain
LRI compression on MR or CT
All had a renocaval pressure gradient >4 mm Hg (normal, 0-1 mm Hg)
Tx: external stent (2), internal stent (1), gonadocaval bypass (1)

Surgical Treatment


Endovascular stenting in the treatment of pelvic vein congestion caused by nutcracker syndrome: Lessons learned from the first five cases

Zuber T., Nester MG, J Vasc Interv Radiol 1996

The renocaval pullback gradient was 4 to 5 mm Hg (mean, 4.3 mm Hg)
Self-expanding metallic stent was implanted in all cases
1 stent migrated: the stent was pulled down in the IVC


Left Renal Vein Stenting

• High radial strength
• Good conformability
• Minimal shrinkage
  • Walkable
  • SMART stent
• Large caliber
  • > length
  • 14-16 mm X 60 mm

Courtesy Manju Kakra, MBBS
Left renal vein stent… will it migrate if iliac vein concepts applied?

- Left renal vein stent retrieval
- swine model

Stent disrupted during retrieval procedure

Self-expanding nitinol stent, long, oversized 20%

**Hybrid Reconstruction**

Laparotomy- Suture Stent in Place

Conclusion:

- PCS & Nutcracker are 2 different diseases
- Renocaval pressure gradient > 2-4 mmHg
- IVUS will likely play a role in the future
- No Great Open or Endo Solutions for Nutcracker

Thank you!