Should You Worry About The Left Renal Vein When Occluding The Left Ovarian Vein?

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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


Pelvic Congestion Syndrome? OR Nutcracker Syndrome?
**Diagnosis – CT/MR**

![CT/MR Image]

*Courtesy Manju Kalra, MBBS*

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**Diagnosis – Venography**

![Venography Images]

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

*Barres RW. J Vasc Surg 1988*

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**Surgical Treatment**

![Surgical Treatment Images]


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**Endovascular stent placement as a treatment for renal venous hypertension**

*Neate MG. J Vasc Interv Radiol. 1996*

*Courtesy Peter Pappas, MD*

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**The nutcracker syndrome: Its role in the pelvic venous disorders**

![Nutcracker Syndrome Diagram]

9 pts with symptoms of pelvic congestion, microscopic hematuria, and left-sided flank pain

- LRV 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 (3)

*J Vasc Surg 2005;34:813-9*

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

![Endovascular Stenting Diagram]

- 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
- Wallstent
- SMART stent
- Large caliber
  - >= length
  - 14-16 mm X 60 mm

Courtesy Manju Kalra, MBBS

Left renal vein stent retrieval

Stent disrupted during retrieval procedure

Swine model

Left renal vein stent... will it migrate if iliac vein concepts applied?

Self-expanding nitinol stent, long, oversized 20%

Swine model

Conclusion:

PCS & Nutcracker are 2 different diseases
Renocaval pressure gradient > 2-4mmHg
IVUS will likely play a role in the future
No great open or endo solutions for Nutcracker

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Thank you!