Pelvic Venous Duplex: How To Find The Pathology

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Disclosures
None

Patient Preparation

- Goal: Minimize bowel gas
  - Overnight fasting (NPO)
  - Avoid smoking or chewing gum before the test to minimize swallowing air
  - OTC, i.e., Simethicone (Gas-X): the night before and morning of the exam
- Early morning scheduling

Patient Positioning

- Patient position is supine with slight head elevation ~10°
- R/L decubitus positions as needed

Pitfalls and Limitations

- Failure to optimize the system settings creating or masking the true pathology
- Overlying bowel gas
- Respiratory movement
- Obesity and pregnancy
- Patient intolerance of probe pressure
- Post-op patients with multiple drains, bandages, etc
Iliocaval Anatomy

Pelvic Anatomy

Pelvic Venous Duplex

• No restrictive undergarments
• Examine bilateral CFV
• Important to compare the CFV flow on both sides
• Scan cephalad from one confluence to another to the right heart

Spectral Doppler CFV Level

Bilateral Evaluation

CFV Spectral Doppler Waveforms

Phasic Flow

Non-Phasic Flow

Transverse Iliac Veins

Iliac Vein diameter
Longitudinal Iliac Veins
- Without Compression
- With Compression

Iliac Veins
Color Flow Evaluation
- Normal Venous Flow
- Venous Stenosis

Iliac Veins
Spectral Doppler
Respiratory Phasicity

CIV and EIV Iliac Veins
Spectral Doppler Waveforms
- Common Iliac Vein
- External Iliac Vein

Iilocaval Confluence

Inferior Vena Cava
- Right Renal Vein
- Left Renal Vein
Inferior Vena Cava Spectral Doppler

- IVC spectral Doppler flow is pulsatile due to the reflected RT atrial pulsations with reversal of flow during atrial systole.