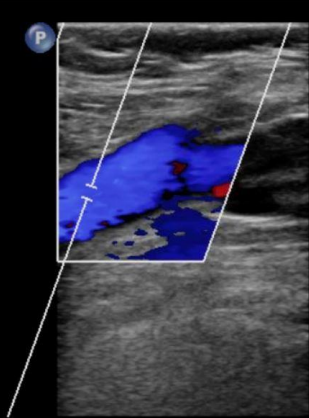


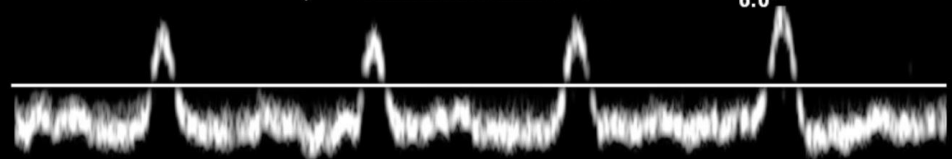
# 60M, history withheld

Jeffrey Guzelian MD

FR 13Hz  
R1  
Z 1.1  
2D  
55%  
C 50  
P Low  
Gen  
  
CF  
33%  
750Hz  
WF 26Hz  
Low



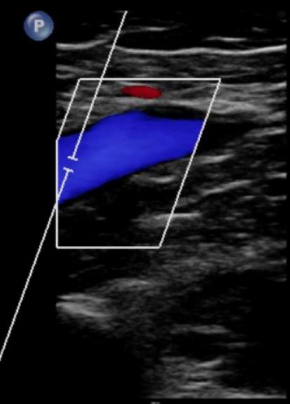
PW  
28%  
WF 40Hz  
SV2.0mm  
M3  
3.5MHz  
2.8cm



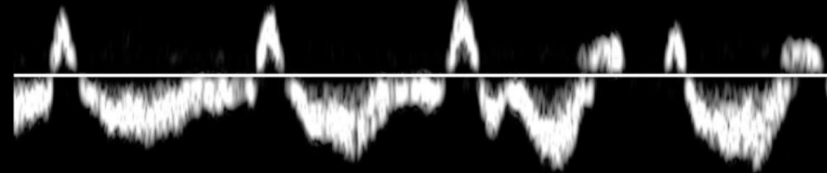
LEFT CFV

6.6sec

P Low  
Gen  
  
CF  
45%  
1500Hz  
WF 52Hz  
Med



PW  
44%  
WF 40Hz  
SV2.0mm  
M3  
3.5MHz  
3.0cm



CFV

RIGHT

6.6sec

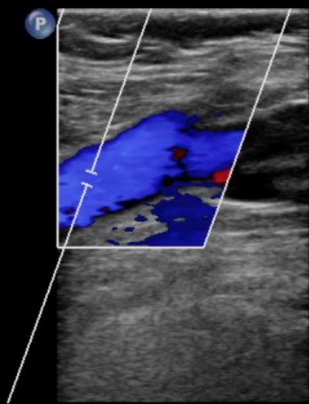
A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching off it. The leaf's edge is serrated.

?

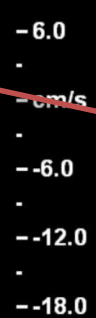
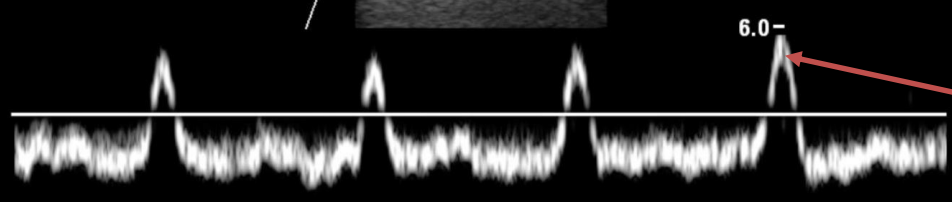
A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching off, with a wavy, lobed edge.

# Right Heart Failure

FR 13Hz  
R1  
Z 1.1  
2D  
55%  
C 50  
P Low  
Gen  
  
CF  
33%  
750Hz  
WF 26Hz  
Low



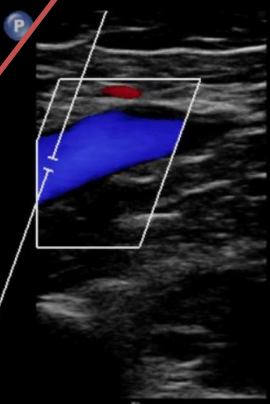
PW  
28%  
WF 40Hz  
SV2.0mm  
M3  
3.5MHz  
2.8cm



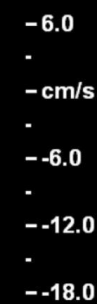
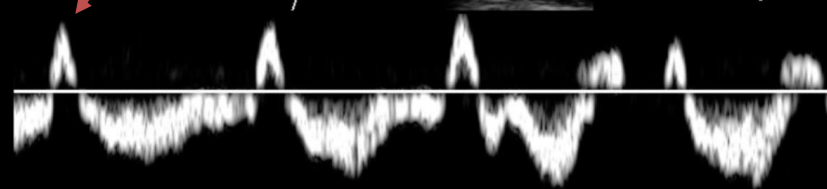
LEFT CFV

6.6sec

P Low  
Gen  
  
CF  
45%  
1500Hz  
WF 52Hz  
Med



PW  
44%  
WF 40Hz  
SV2.0mm  
M3  
3.5MHz  
3.0cm



CFV

RIGHT

6.6sec

Venous doppler of the lower extremities demonstrates pulsatile reversal of flow in the bilateral common femoral veins (arrows). The patient had a history of pulmonary arterial hypertension.

# Right heart failure

- Lower limb pulsatile retrograde venous Doppler waveform has 94% specificity and PPV for right heart failure (defined as right atrial pressure > 8mm Hg)
- Pulsatile retrograde flow can result from a large *a* wave (contraction of an overdistended right atrium) or a large complex retrograde component consisting of a large *a* wave, a reversed systolic wave (tricuspid incompetence), and a prominent retrograde *v* wave (right atrial overfilling)