

A microscopic view of numerous red blood cells, appearing as bright red, biconcave discs against a dark, blurred background.

Peripheral Artery and Bypass Graft Case Presentations

John G Carson MD RPVI FACS
Division of Vascular Surgery
Maine Medical Center
Portland, ME

A vertical tear in a dark, textured surface, revealing a lighter, textured material underneath, creating a torn paper effect.

Disclosures

Non relevant consulting:

- Boston Scientific
- Humacyte

Case

- 72-year-old female
- DM & previous smoker
- Non-healing ulcer right 5th toe
- Previous bypass on the left, stent on the right



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Concerns

- Elective, urgent or emergent?
- Next Steps?

Q: What is your next step in the management in this patient?

- A. Urgent Arteriogram
- B. ABI c/ segmental pressures
- C. ABI c/ arterial duplex
- D. CT angiogram
- E. X-ray of the toe

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Discussion

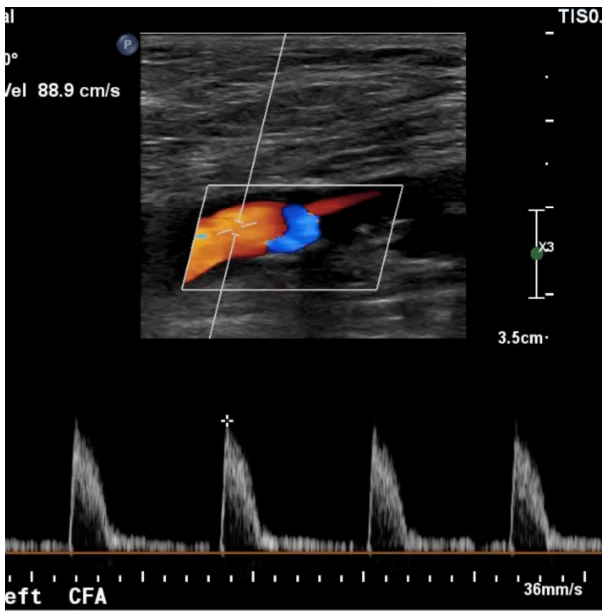
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Signs of revascularization failure

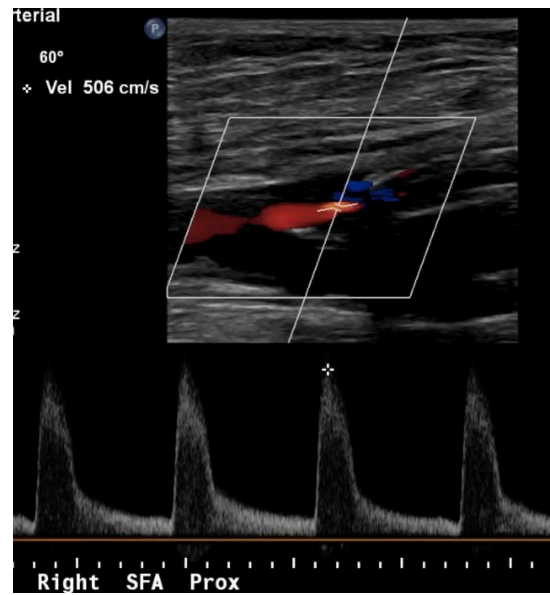
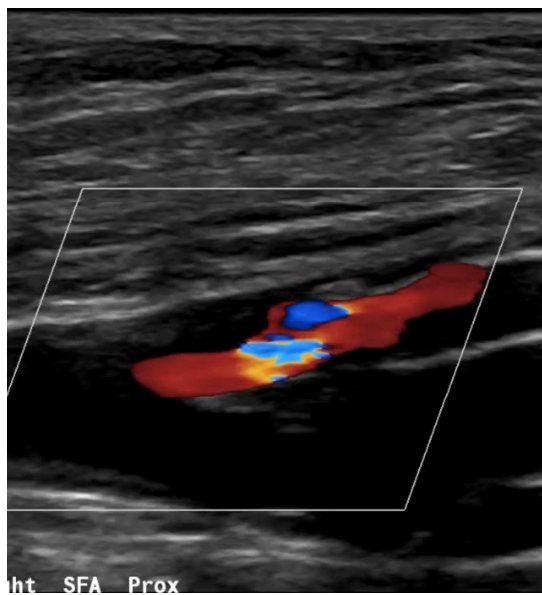
- “Something does not feel right - feels like it did prior to surgery”
- Lost of pulse or pulse in graft (change in doppler signal)
- New wounds
- Old wounds stall or open up



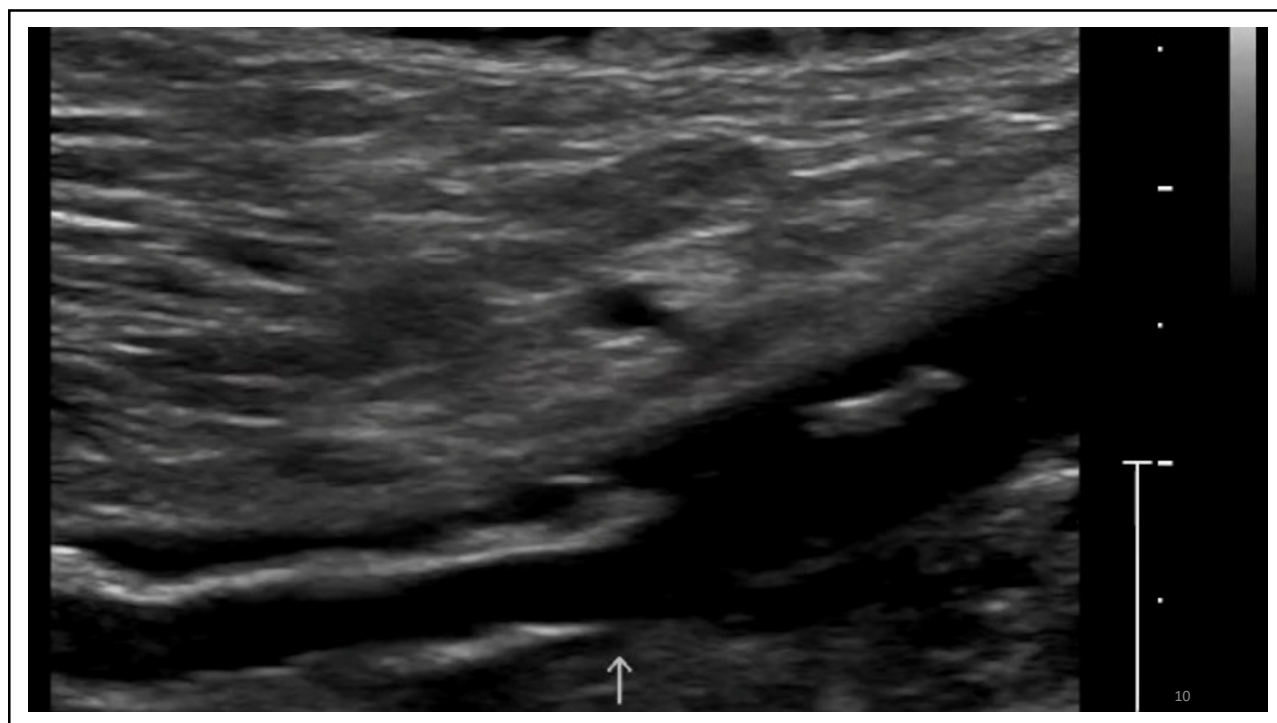
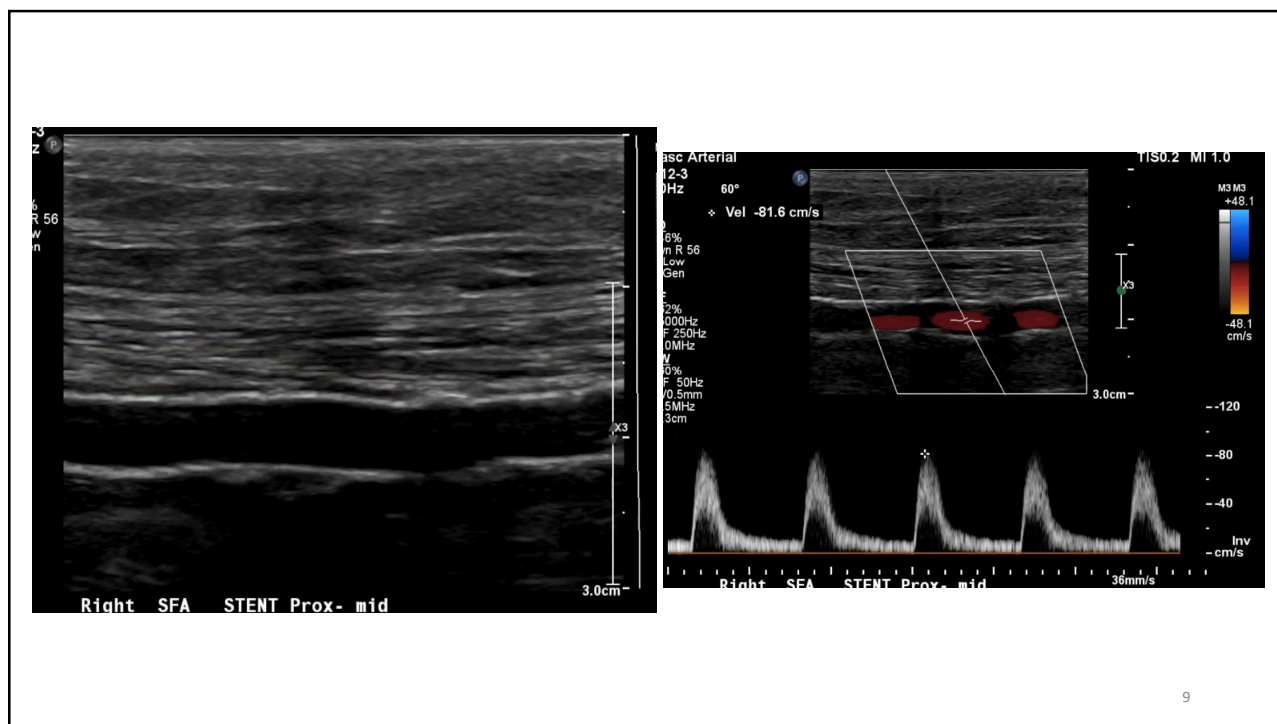
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- ABIs : Non-compressible
- R Toe pressures 45 mmHg

Concerning findings?



RIGHT ABI -			LEFT ABI -		
PTA: <u>Em.</u> DPA: <u>Em.</u>			PTA: <u>Em.</u> DPA: <u>Em.</u>		
Brach: <u>NC</u> PTA: <u>NC</u> DPA: <u>NC</u>			Brach: <u>NC</u> PTA: <u>NC</u> DPA: <u>NC</u>		
TBI:			TBI:		
Site	Velocity	Waveform	Site	Velocity	Waveform
EIA D	44	TP/hyp	EIA D	46	TP/hyp
CFA	130		CFA	89	
PFA	102		PFA	116	
SFA P	506 →	653	SFA P	67	
SFA %	82	MC	SFA %	0	
SFA M	82		SFA M	0	
SFA %	82		SFA %	0	
SFA D	116		SFA D	0	
POP P	185		POP P	5	MC
POP M	113		POP M	20	
POP D	141		POP D	18	
TPT	125		TPT	61	
ATA P	77		ATA P	58	
ATA M	51	MC	ATA M	58	
ATA D	114		ATA D	58	
PTA P	0		PTA P	0	
PTA M	0		PTA M	0	
PTA D	0		PTA D	0	
PER P	47		PER P	50	
PER M	155	MC	PER M	36	
PER D	88		PER D	30	

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Treatment Options

- Balloon angioplasty
- Atherectomy
- Stenting
- Bypass

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"In-stent stenosis after SFA angioplasty and stenting can be predicted by both PSV and Vr data as measured by DU imaging. To determine a "80% in-stent stenosis, combining a PSV "275 and a Vr "3.50 is highly specific and predictive."

From the Society for Vascular Surgery

Duplex criteria for determination of in-stent stenosis after angioplasty and stenting of the superficial femoral artery

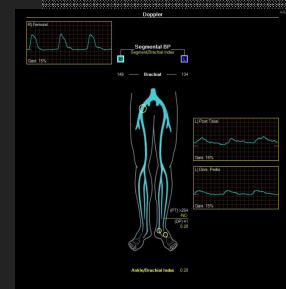
Donald T. Baril, MD, Robert Y. Rhee, MD, Justine Kim, MD, Michel S. Makaroun, MD, Rabin A. Chaer, MD, and Luke K. Marone, *Pittsburgh, Pa*

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Case Presentation



- 74-year-old man with non-healing wounds to the left 4th toe.
- Smoker
- DM
- ABI Left : 0.28



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Treatment

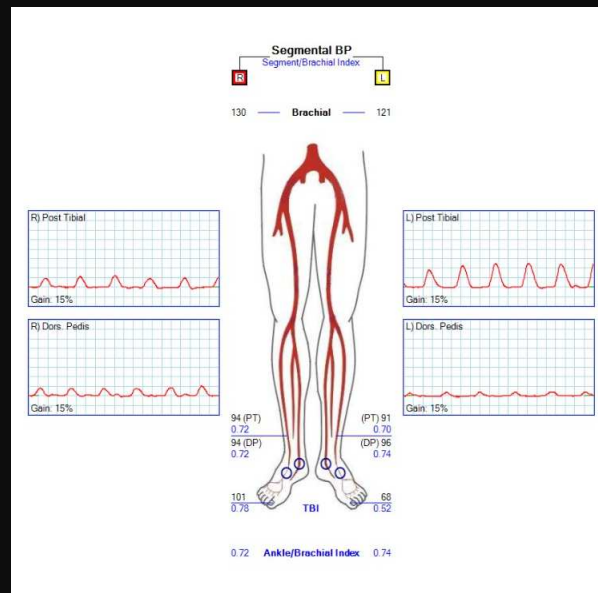
- May: Left SFA to PTA bypass
- Uneventful
- ASA / Statin
- PT Pulse / ABI 0.90
- 1 month follow up – wound healing

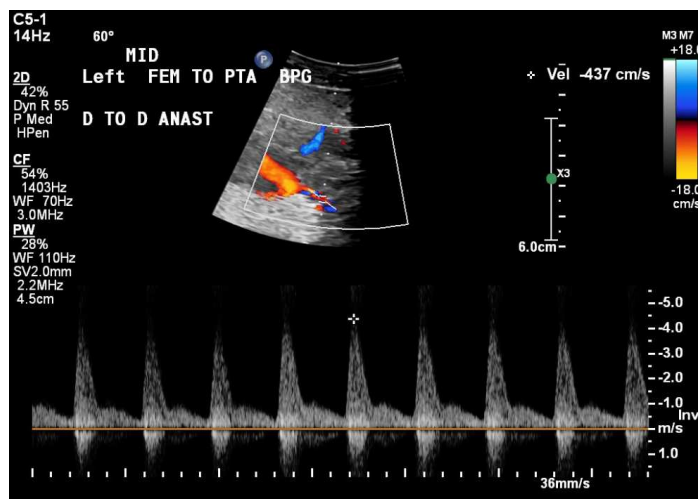
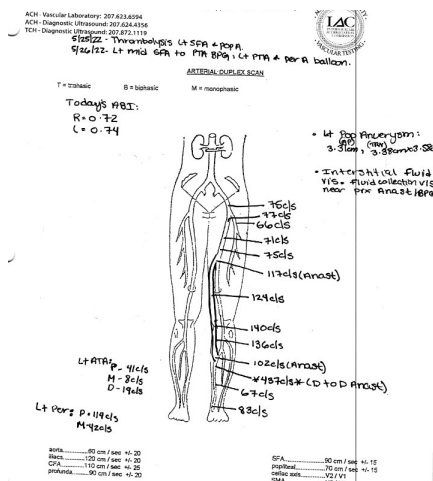


Follow up #2 3 months

- Wounds stalled
- ABIs: - LEFT 0.94 to 0.74
- What are some important questions?

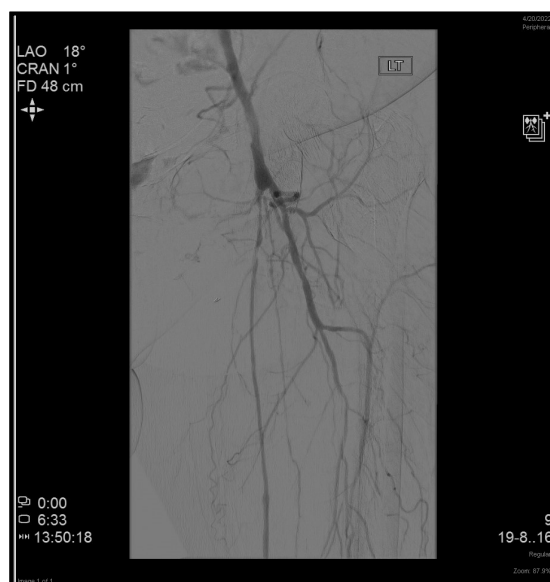
What is the next study?



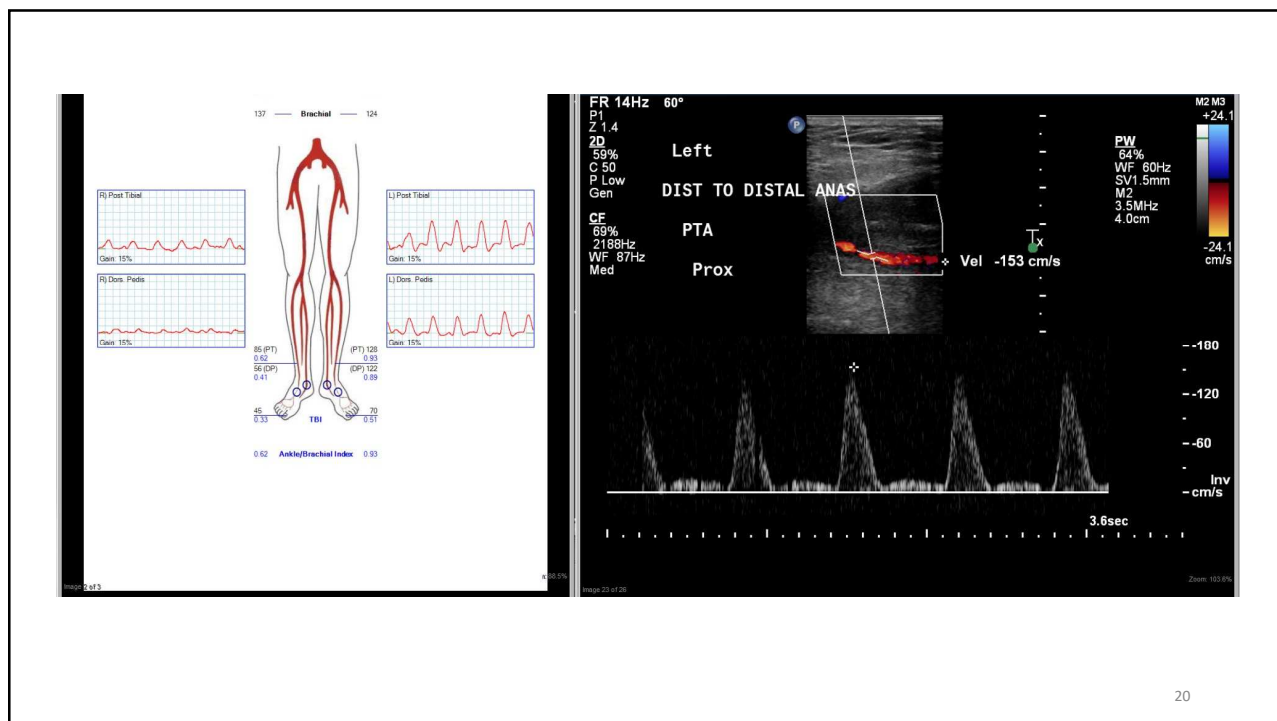
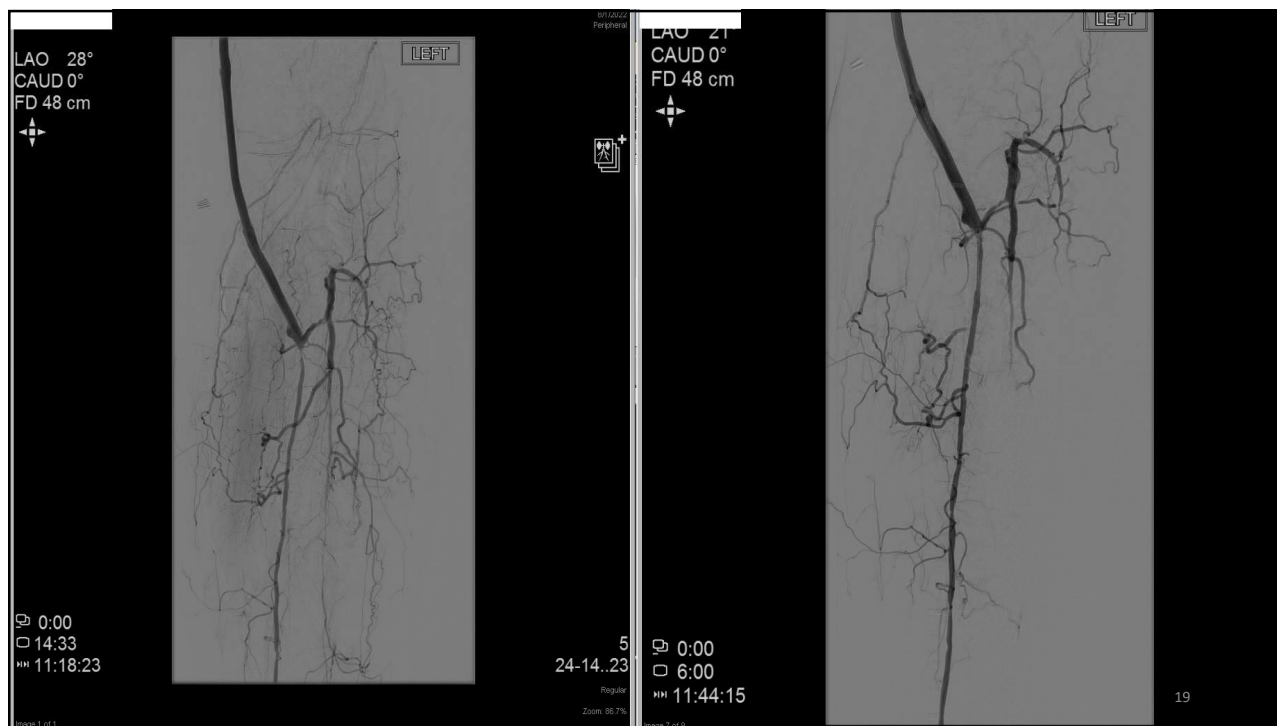


THOUGHTS?

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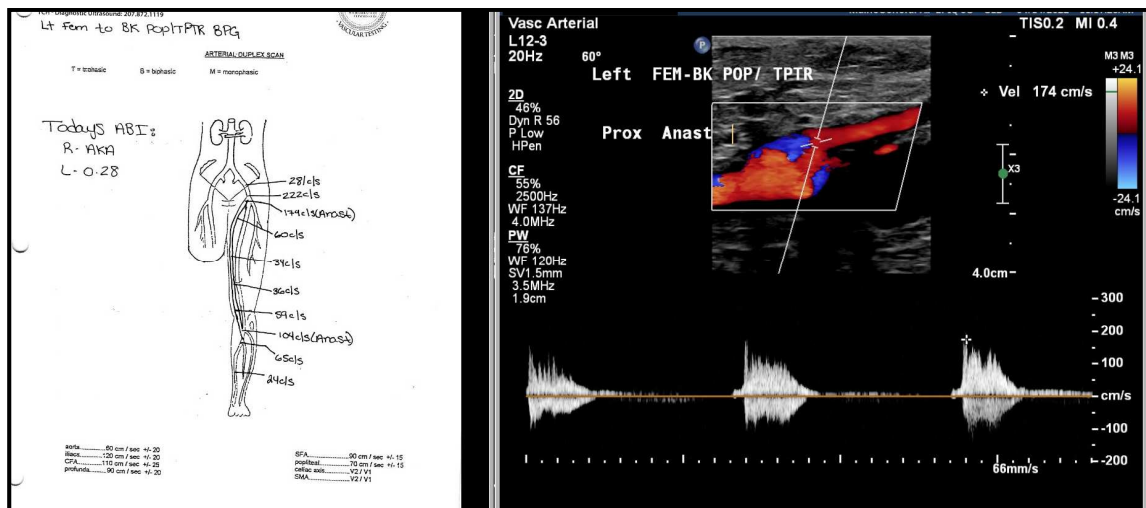
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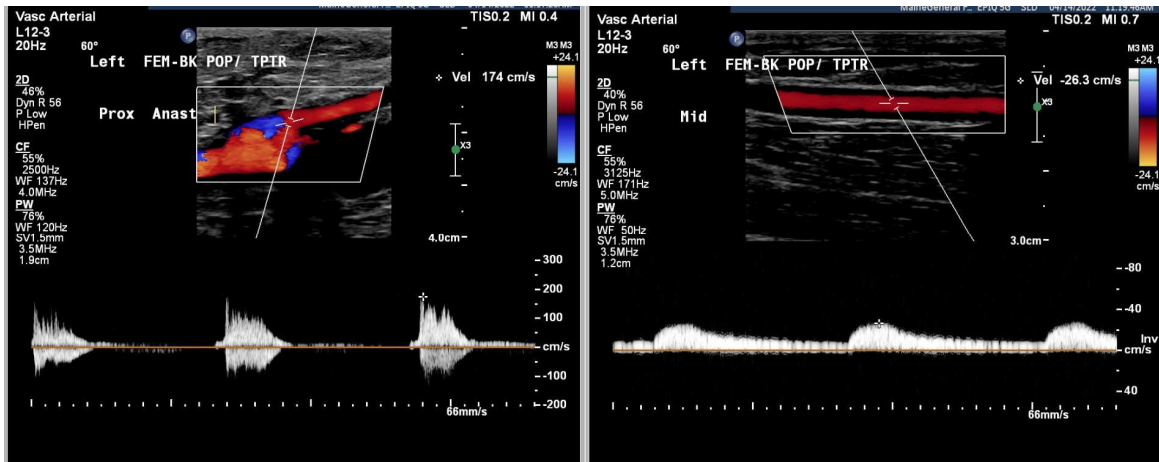
Case Presentation

- 67-year-old female, recurrent smoker with rest pain to the left leg
- s/p RIGHT BKA
- s/p LEFT Femoral popliteal artery bypass

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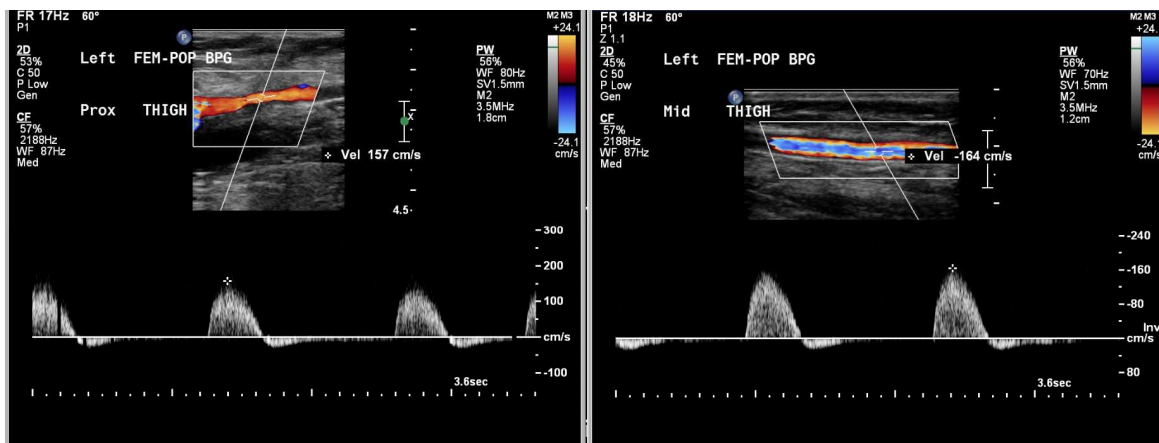


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Discussion – Thoughts?

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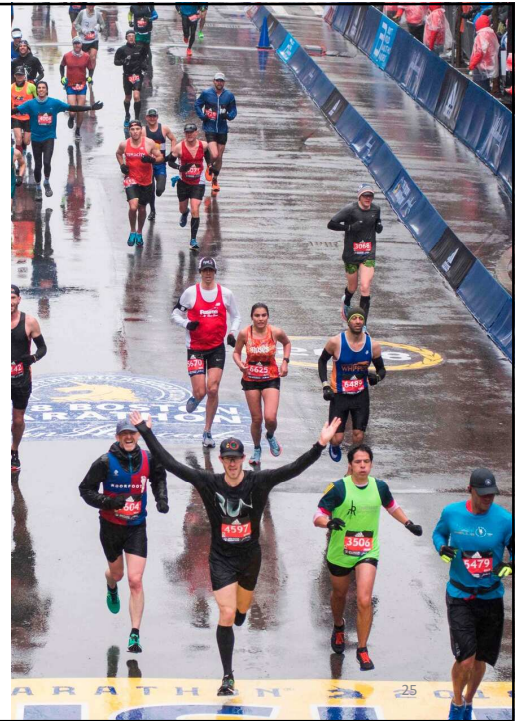


Post Angioplasty

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Summary

- Duplex will guide the physician to the appropriate treatment
 - Reducing cost, contrast and time
- Important to understand to the procedure
- Surveillance may vary depending on the last study
- Prevention from graft thrombosis saves limbs, and overall morbidity and mortality



Thank you