What can we do for Heavy Calcified lesions?

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

- ☐ Consulting
- ☐ Employment in industry
- ☐ Stockholder of a healthcare company
- ☐ Owner of a healthcare company
- ☐ Other(s)

- ☑ I do not have any potential conflict of interest

Limitations of Endovascular treatment in Ca+++

1. *Difficulty of lesion passage*
2. *Suboptimal PTX effect??*
3. *Small luminal gain*

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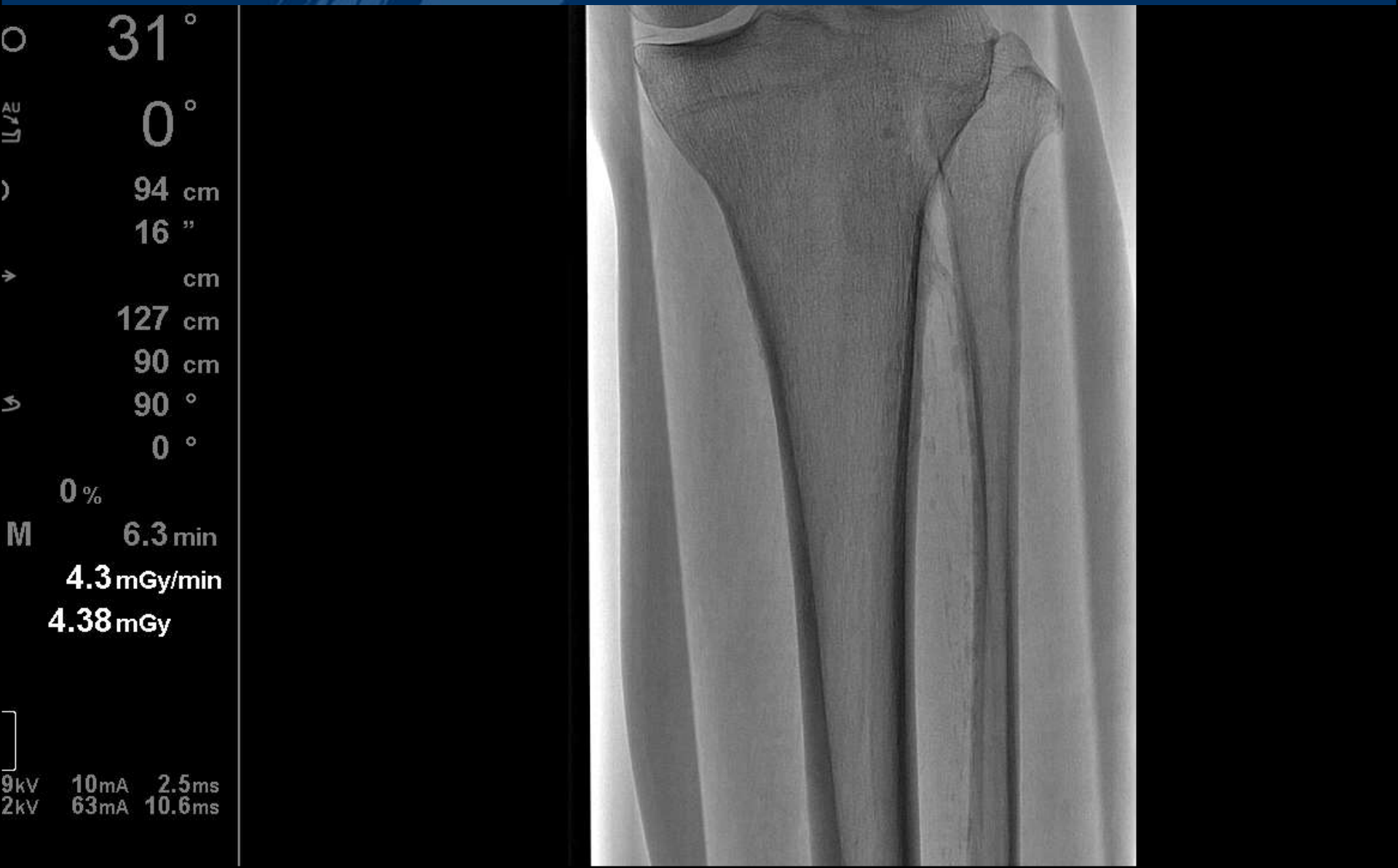
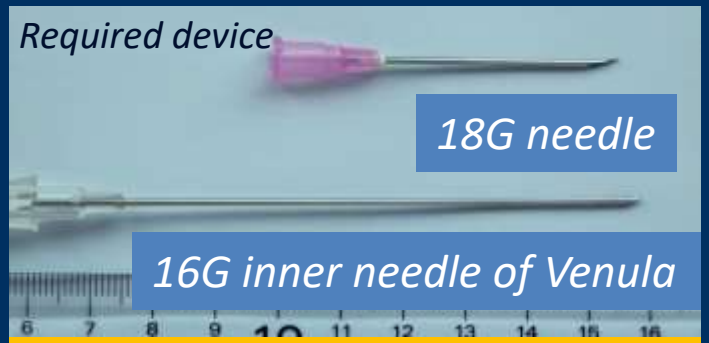
Calcified plaque precludes device passages



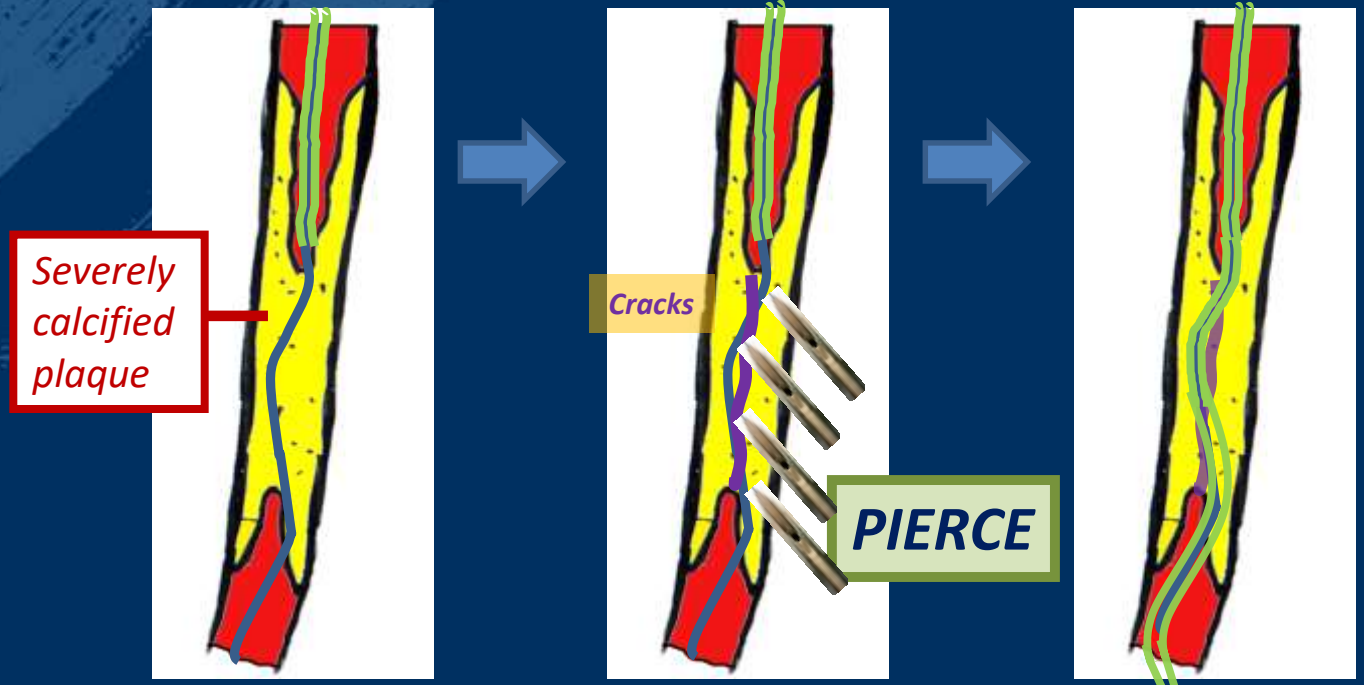
PIERCE technique

- Percutaneous direct needle puncture of calcified plaque
- Creates cracks in the calcified plaque
  - For passage of the device
  - For complete dilatation of the lesion.



Ichihashi S, Sato T. et al.
J Vasc interv Radiol 2014; 25: 784-8

PIERCE technique



Even after passage of GW, any balloon or microcatheter can not cross.

PIERCE is done.

Micr catheter or balloo can cross.

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PIERCE technique

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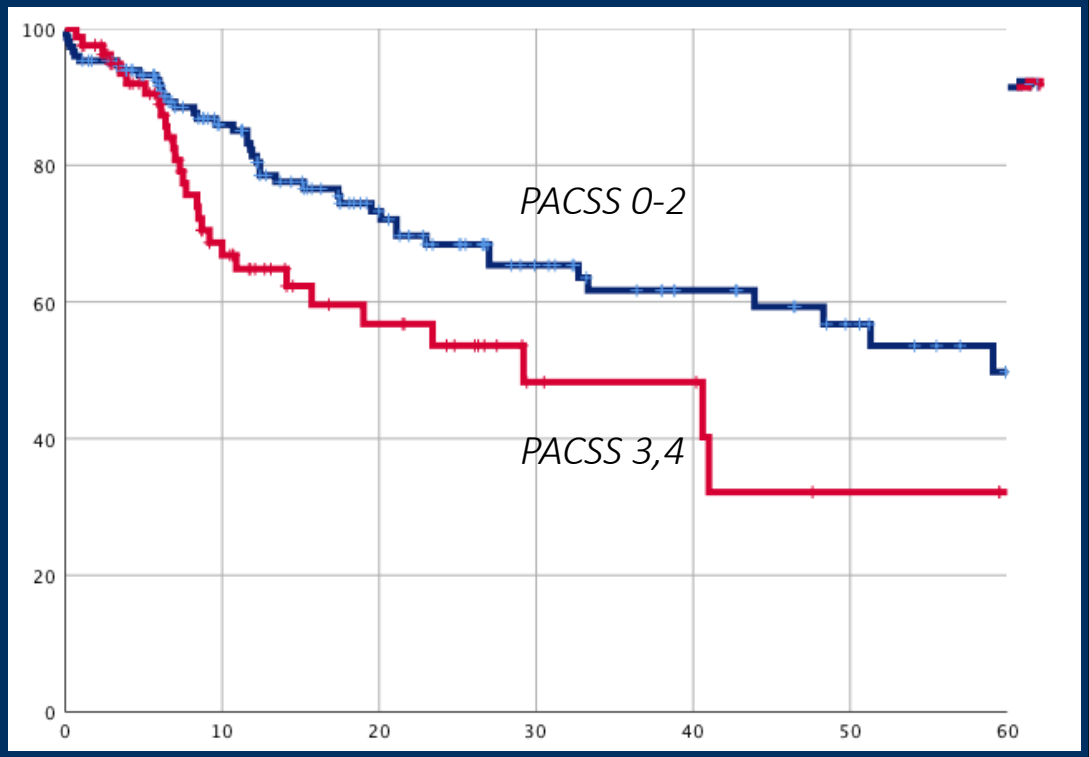
PACSS 3/4 :
Risk factor of ISR after DES implantation

- 220 pts with 230 limbs
- Age: 73 ± 8.3
- Female: 20.5%
- Dialysis: 27.8%
- CLI: 26.5%
- Median follow up: 19 M

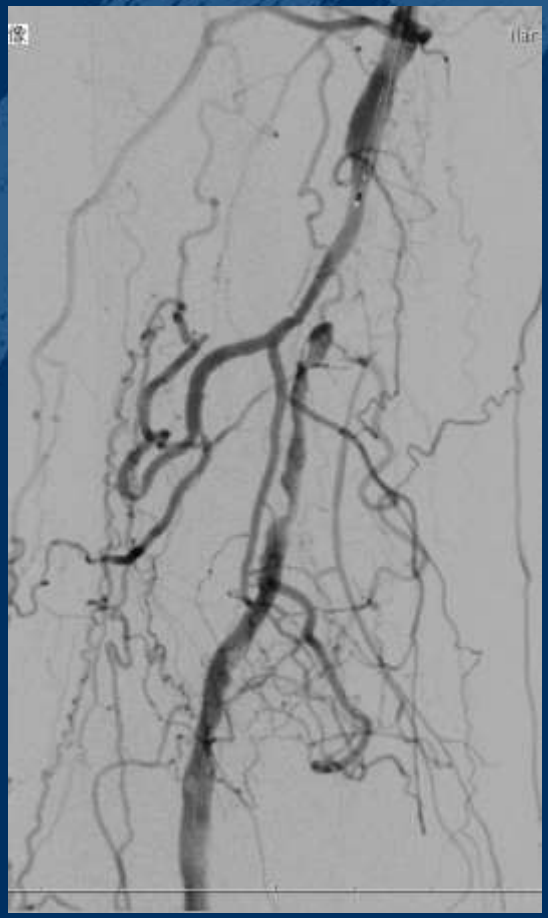
- pre ABI 0.57
- Lesion Length: 16.4cm
- Occlusion: 45%
- ISR: 29%

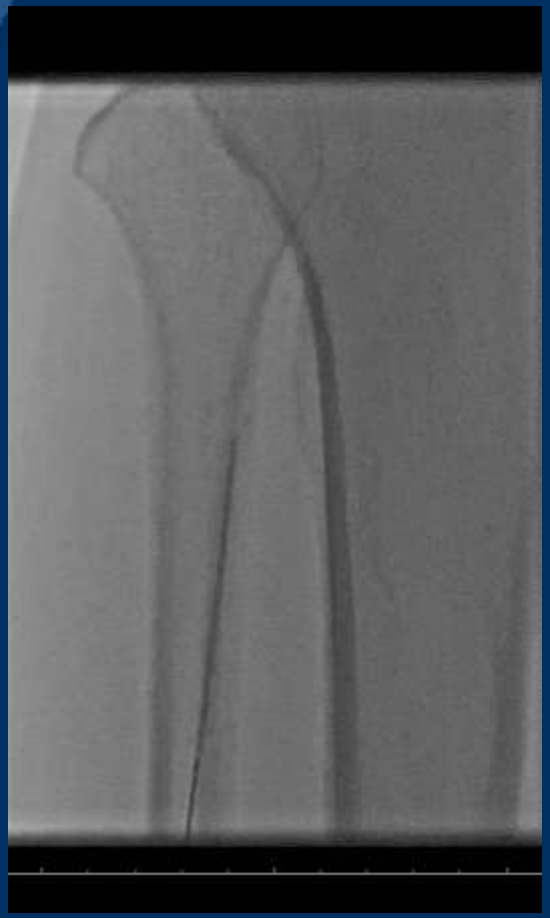


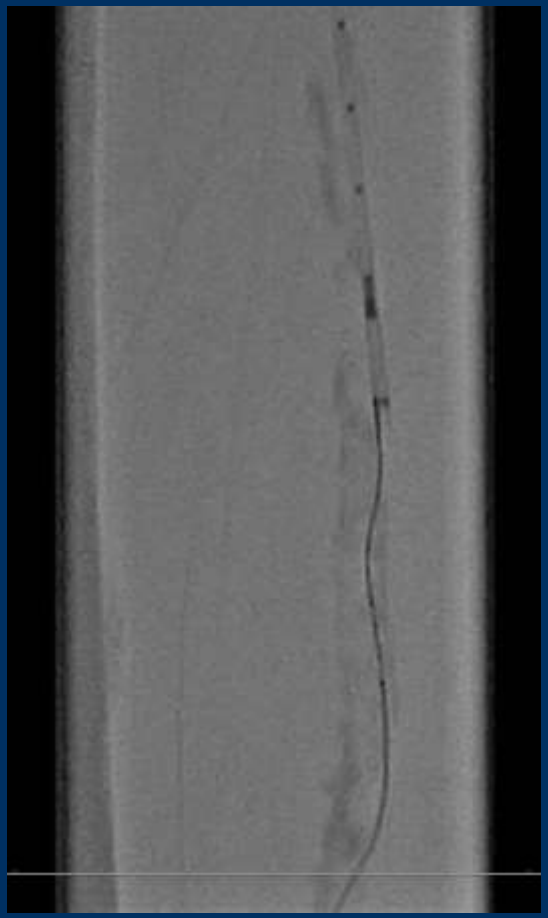
Ichihashi S et al. J Endovasc Ther. 2019 ;26:613-620.

PIERCE technique as a vessel prep

High ATA puncture



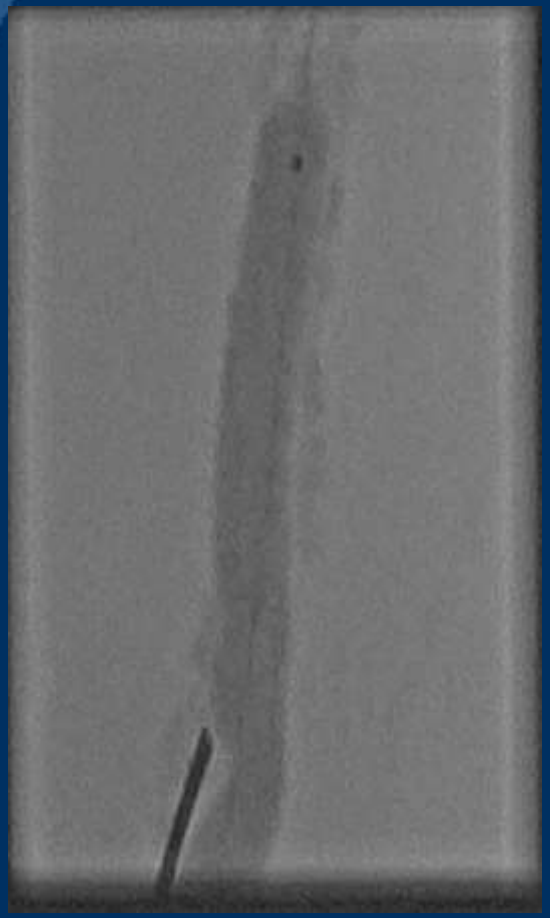




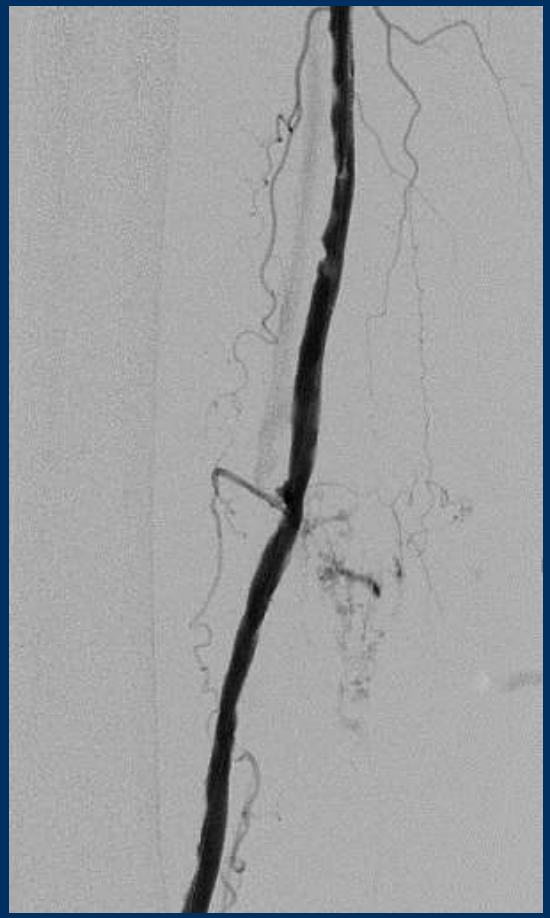
PIERCE technique as a vessel prep

Residual stenosis

PIERCE



Post




Sometime situation gets worse despite the repeated conventional angioplasty

Deep venous arterialization (DVA)

Cardiovasc Intervent Radiol
https://doi.org/10.1007/s00270-019-02388-2

CIRSE

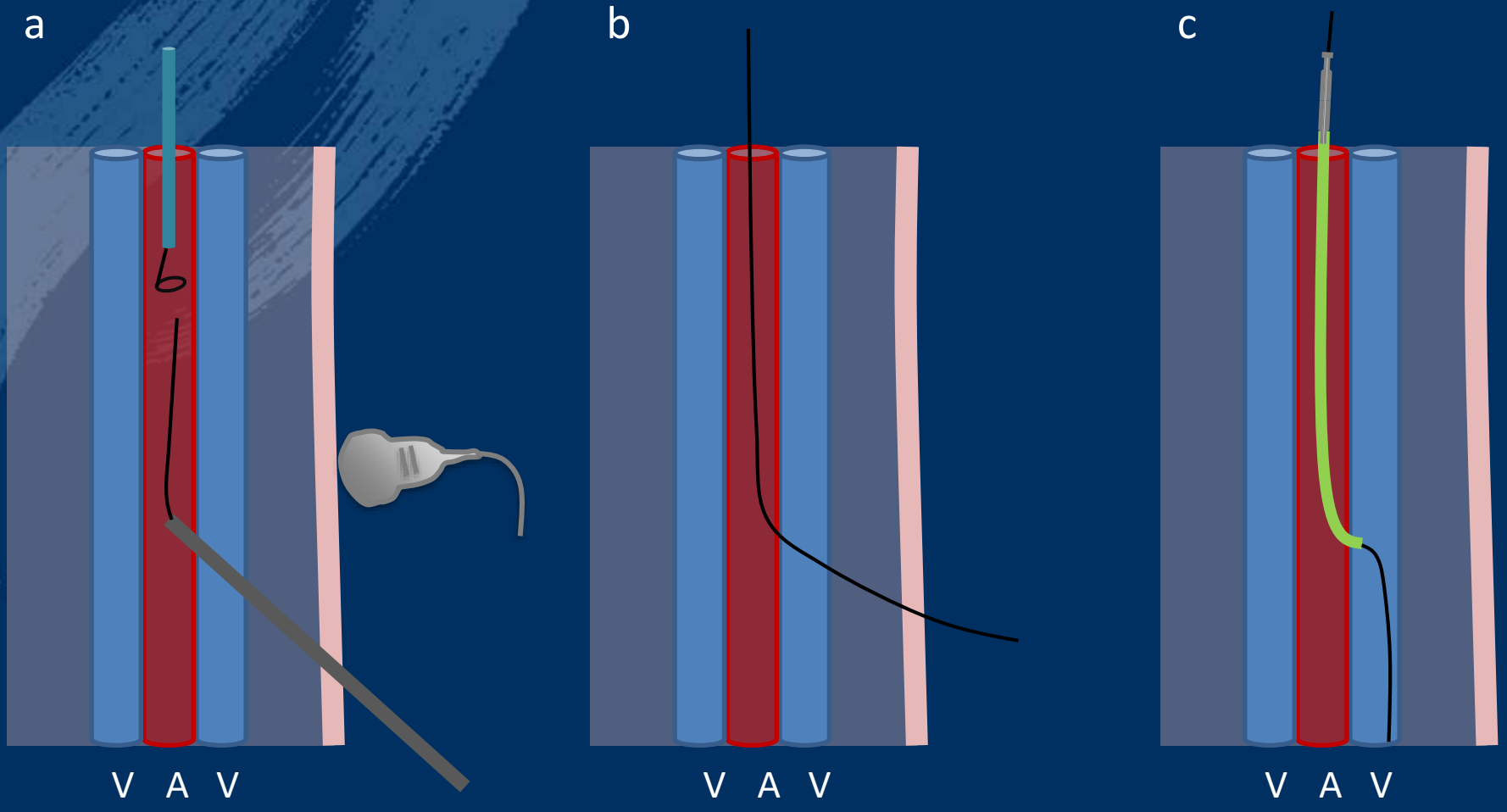
CASE REPORT

Simplified Endovascular Deep Venous Arterialization for Non-option CLI Patients by Percutaneous Direct Needle Puncture of Tibial Artery and Vein Under Ultrasound Guidance (AV Spear Technique)

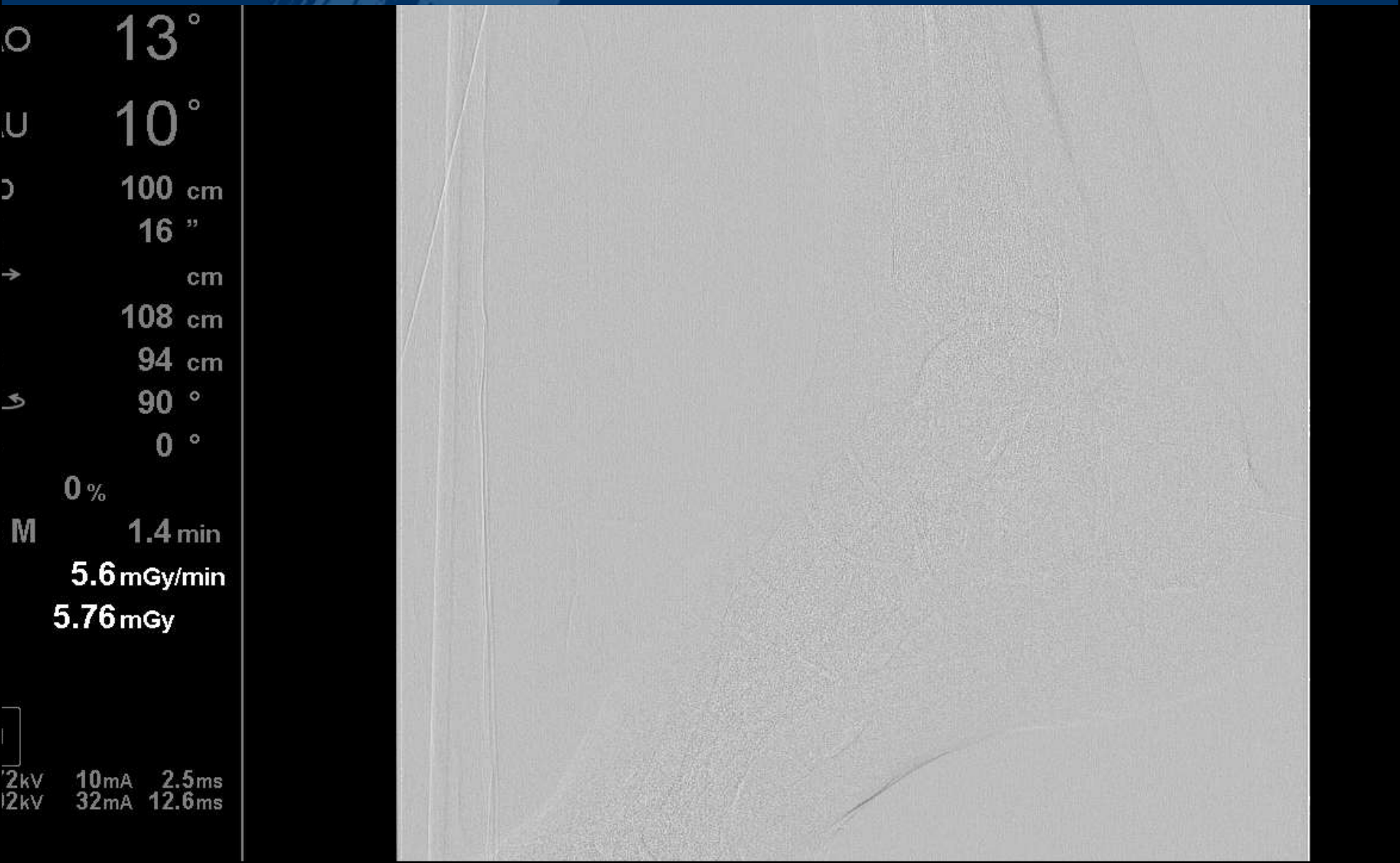
Shigeo Ichihashi[1] · Yuichi Shimohara[1] · Francesco Bolstad[2] · Shinichi Iwakoshi[1] · Kimihiko Kichikawa[1]

AV Spear technique

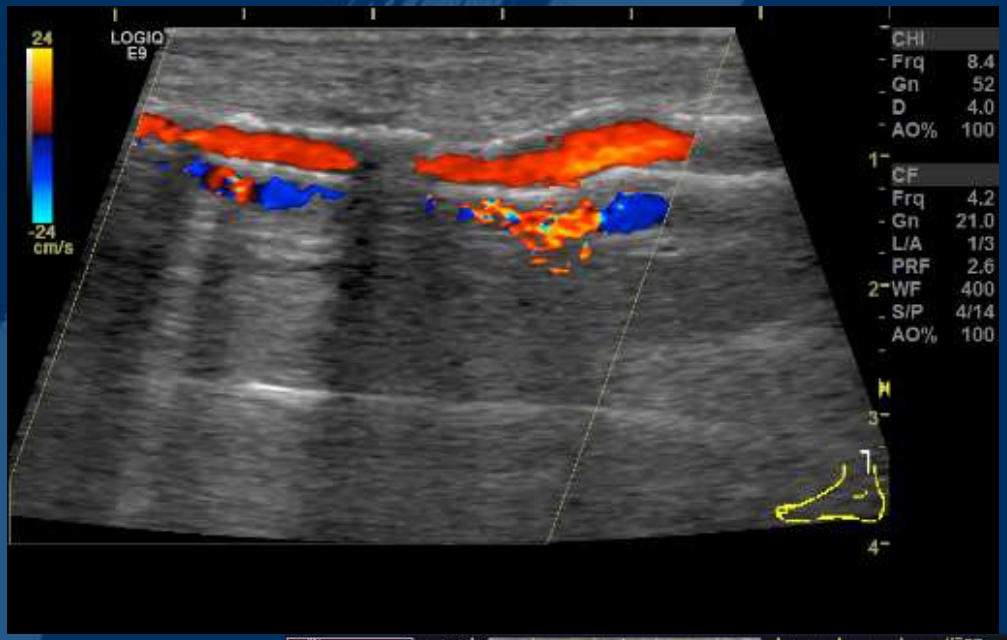
Perqutaneous DVA



AV spear technique



Duplex survey



One month after amputation

Conclusion

- *Ca+++ is the biggest ENEMY*
  - *PIERCE technique*
    - *Device passage*
    - *Vessel modification*
  - *AV spear technique*
    - *Limb salvage for non-option CLI*
    - *Cheap!!!*
    - *No need for fancy device, covered stent*

Thank you for your attention

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