Ant Tib-Ant Tib Deep Vein Arterialization for Limb Salvage

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I have the following potential conflicts of interest to report:

☑ Consulting - *Penumbra, Cook, Abbott, Philips, Cardiva*

☐ Employment in industry

☐ Stockholder of a healthcare company

☐ Owner of a healthcare company

☐ Other(s)

☐ I do not have any potential conflict of interest
DvA (Deep Vein Arterialization)

- We’ve seen increase in DvA as an option for desert feet patients in limb salvage cases

- Majority of reported cases have been Posterior Tibial Artery to Posterior Tibial Vein, which is ideal

- Other options may be needed when PTa or PTv not useful conduits
CASE
66yo M

- IDDM, Cirrhosis, ESRD s/p CRT, CAD s/p CABG
- Long standing PVD. Progressive limiting claudication in the past.
- Over months developed multiple toe wounds with serial debridements and toe amputations
- Nonhealing amputation wounds along the medial side
- Has had several angiograms with attempts at interventions to assist wound healing
Conventional Attempts...
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Patient with no direct revascularization options left

Wound not healing

Decision to attempt DvA
LimFlow
Deep Vein Arterialization (DVa)

1. In a minimally-invasive manner, an ultrasound catheter is inserted into a vein at the ankle, while another ultrasound catheter is inserted into an artery in the groin.

2. The catheters are advanced until they arrive at the location of the blockage in the artery. An ultrasound signal confirms the best location to create a channel from the artery into the vein.

3. A connection is then made by sending a needle from the ultrasound catheter into the vein, which is slightly enlarged using a low-profile balloon to facilitate passage of other devices.

4. A device known as a “Push Valvulotome” travels through the vein down to the foot, disabling the valves so oxygenated blood can flow down to the foot instead of upwards to the heart, as usually happens within veins.

5. A crossing stent is deployed from the artery to the vein, and additional stents are installed moving downwards to the foot, which is designed to create a new channel for high and continuous blood flow to rush into the foot. The vein may now begin to play the same role blocked arteries used to play. This may all be achieved without open surgery.
Determined that he did not have Posterior Tibial veins, only Peroneal and Anterior Tibial
Decided to Attempt Anterior Tibial Artery to Anterior Tibial Vein Arterialization
Overnight
Summary

- We continually push the limits of limb salvage

- DvA has been a welcomed addition to the revasc approaches utilized

- Conventionally, PTa to PTv has been the preferred conduits

- If these are not available, Ant tib Art to Ant Tib Vein can be used
Things Don’t Always Go Great
Thank you

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