

## **A Case of Immediate Minor Amputation in the Cath Lab Following Deep Vein Arterialization for a No-Option CLTI Patient**

P-15 Yudai Tayama<sup>1</sup>, Naotaka Murata<sup>1</sup>, Ryu Takagi<sup>1</sup>, Yoichiro Takada<sup>1</sup>, Ryosuke Ito<sup>1</sup>, Jun Yamashita<sup>1</sup>, Kazuhiro Satomi<sup>1</sup>

The Department of Cardiology, Tokyo Medical University, Japan

The patient was a 57-year-old man under regular follow-up at our hospital for HIV infection, type 2 diabetes mellitus, and end-stage renal disease on maintenance hemodialysis. He presented with a refractory ulcer of the right toe persisting for several months, classified as Rutherford category 5 and WIfI stage 4 (W2I3fI1). Angiography was performed, revealing relatively preserved runoff of both tibial arteries down to the ankle. However, perfusion distal to the ankle was severely impaired (GLASS stage P2). Surgical distal bypass and endovascular revascularization were deemed technically unfeasible. Adsorptive blood purification therapy was also considered but was contraindicated due to concurrent wound infection. Given these findings, the patient was diagnosed with no-option CLTI, and Deep Vein Arterialization (DVA) was selected as the treatment of last resort.

A 6F sheath was introduced in an antegrade fashion, and a snare was placed in the posterior tibial artery. Under ultrasound guidance, a 4F sheath was then inserted into the posterior tibial vein, and another snare was placed. Using multi-angle fluoroscopy, the optimal angle where the arterial and venous snares aligned linearly was identified. A percutaneous puncture was performed from the body surface through both snares, and a 0.014" guidewire (GW) was advanced. In this case, the artery was located superficial to the vein. Therefore, the guidewire was first pulled out externally through the venous sheath using the venous snare. A double-lumen catheter was then advanced retrogradely over the wire, and a new guidewire was exchanged into the arterial side via the over-the-wire lumen. This guidewire was then pulled out through the arterial sheath, establishing externalization. The guidewire was advanced antegradely to the level of the plantar venous arch, and balloon angioplasty with a cutting balloon was performed sequentially from the distal vein to the proximal shunt site to disrupt venous valves. Final angiography confirmed successful antegrade flow from the posterior tibial artery to the plantar venous arch, completing the endovascular procedure. Subsequently, under local anesthesia, minor toe amputation was performed by the plastic surgery team in the cath lab.

This case reaffirms that DVA can be considered a viable last-resort option for patients with no-option CLTI.