

Endovascular treatment in patient with critical limb ischemia who has bi-lateral total occlusion from iliac artery to popliteal artery including puncture site



Hideto Yano, Teruyasu Sugano, Naohiro Komura, Masayoshi Kiyokuni, Naoki Nakayama, Kiwamu Iwata, Hiroshi Doi, Kiyoshi Hibi, Kazuo Kimura

Department of Medicine and Cardiology, Yokohama City university Hospital, Yokohama, Japan

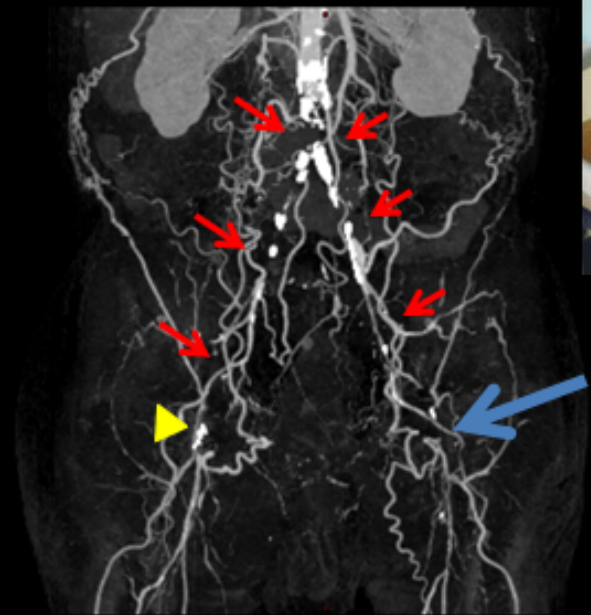
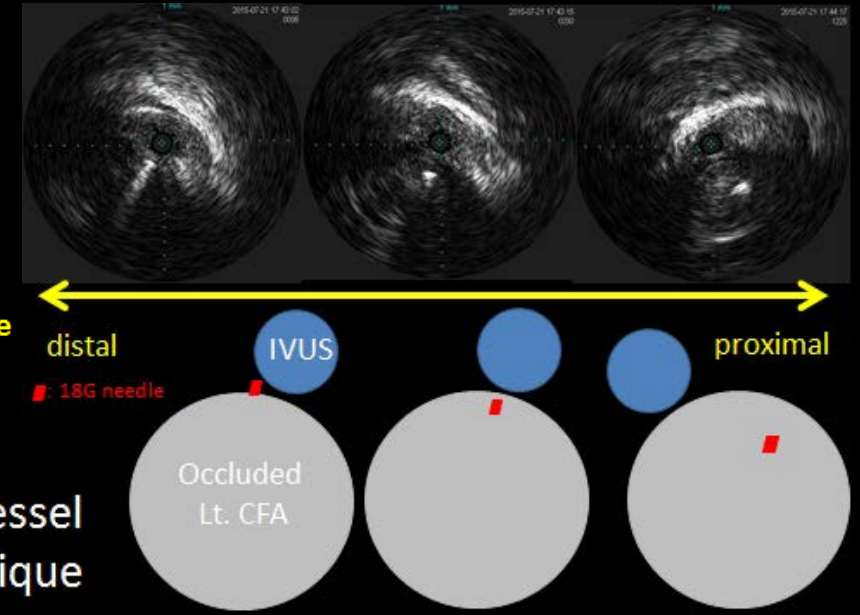
Case

70's years male
non-healing foot ulceration
(Rutherford 5) and bi-lateral leg pain in rest



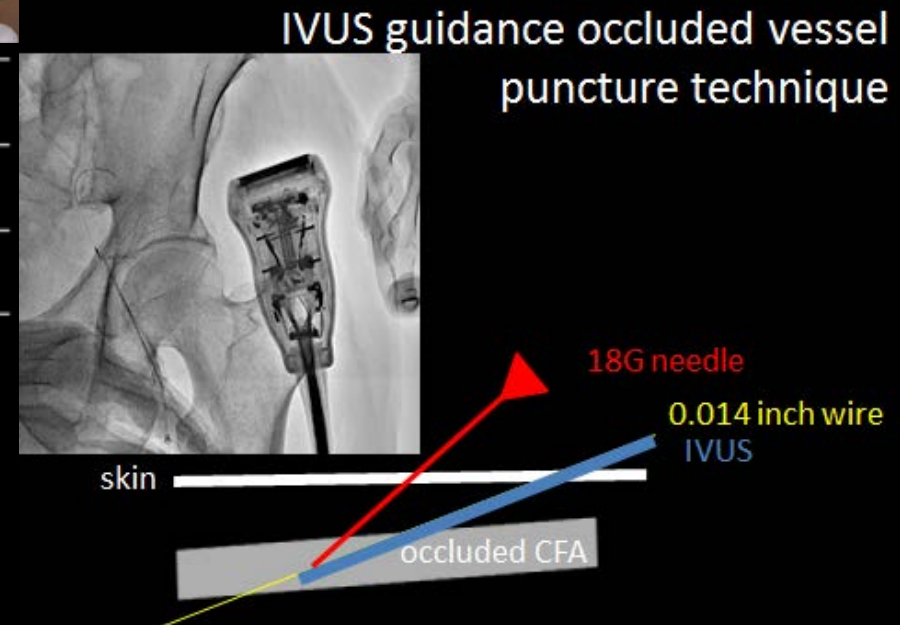
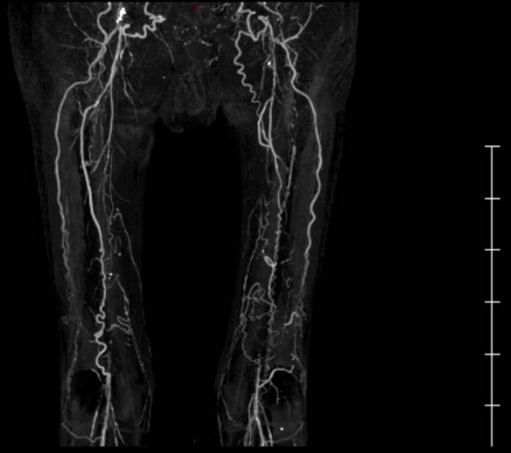
Revascularization strategy How to access?

- Left brachial artery : puncture in usual way
- Right common femoral artery : duplex ultrasound guided puncture
- Left common femoral artery : **IVUS guidance occluded vessel puncture technique**



CT angiography showed bi-lateral iliac artery occlusion (red arrow). Right common femoral artery was slightly enhanced by co-lateral flow (yellow arrow head). Left common femoral artery looked completely occluded (blue arrow).

CTA also revealed that long bi-lateral SFA total occlusion.



- Step1:** we punctured occluded common femoral artery under the duplex ultrasound guidance.
- Step2:** After deep insertion of 0.014 inch guidewire, intravascular ultrasound (IVUS) catheter was inserted. IVUS revealed that the tip of IVUS catheter exist at the extravascular space.

- Step3:** We re-punctured common femoral artery under the IVUS guidance which exist at the extravascular space.
- Step4:** We could confirm the tip of the puncture needle existed exactly within the occluded common femoral artery by extravascular IVUS and 0.035 inch guidewire was successfully inserted.
- Step5:** Guiding catheter was successfully inserted into the occluded artery.