A case with blunt occlusive traumatic injury in the popliteal artery who underwent successful revascularization using stent graft and distal puncture

Masayoshi KIMURA, MD  Department of Cardiology  Kyoto First Red Cross Hospital, Kyoto, Japan

1. Background

Blunt traumatic popliteal artery occlusion

20% !!

Amputation in young

Emergency Department, Orthopedics only. Open repair or bypass etc.

To limb salvage, let's all join force!!

Interventional Endovascular treatment

2. Case presentation

A 23-year-old male was transferred to our hospital for treating blunt traumatic popliteal artery injury by an motorcycle accident.

CT angiography revealed total occlusion in right popliteal artery. However, fifteen hours had already passed since the trauma, and open surgery might carry risks of reperfusion injury, which leads to severe muscle swelling and graft occlusion. Endovascular treatment was then performed for the above-mentioned reasons.

A 6-French sheath was antegradeley inserted through right common femoral artery. Angiography revealed total occlusion in the right P1 to P2 segments with inadequate perfusion to the tibial arteries via collateral arteries.

3. Endovascular Treatment

Popliteal occlusion

Antegrade approach Guidewire could not cross Went out of vessel

Bidirectional approach was the only treatment option. Performing a distal puncture via right dorsal pedal artery. The retrograde floppy guidewire was managed to cross the lesion.

4. Result

Final angiogram revealed optimal blood flow without any complications. Overcoming compartment syndrome by fasciotomy, he left our hospital on foot POD 76.

After one year, good patency with SAPT and excellent ambulatory.

5. Discussion

From IVUS images, length of rupture and occlusion were about 3cm and 8cm, respectively.

Considering of medication after EVT to avoid thrombosis, I chose spot VIABAHN implantation in the rupture site and overlapping bare nitinol stent in the occlusive site.

6. Conclusion

EVT using VIABAHN and distal puncture is an essential treatment option for blunt traumatic popliteal artery injury.