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Announcement of the winners of the LINC 2019 poster award

Challenging Cases

Dr. Masayoshi Kimura

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

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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!!

Interventionalist
Endovascular treatment

③ Endovascular Treatment

Popliteal occlusion



Antegrade approach
Guidewire could not cross
Went out of vessel

Popliteal artery rupture

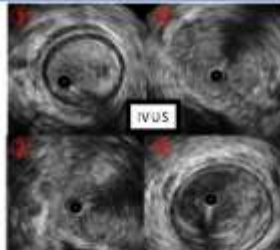
Bidirectional approach was the only treatment option.
Performing a **distal puncture** via right dorsal pedal artery.
The retrograde floppy guidewire was managed to cross the lesion.

② Case presentation

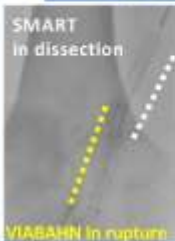
A 23-year-old male was transferred to our hospital for treating blunt traumatic popliteal artery injury by an **motorcycle accident**.

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 antegradely 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.



P1-P2 segment
No normal three vessel wall structure 3cm



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.

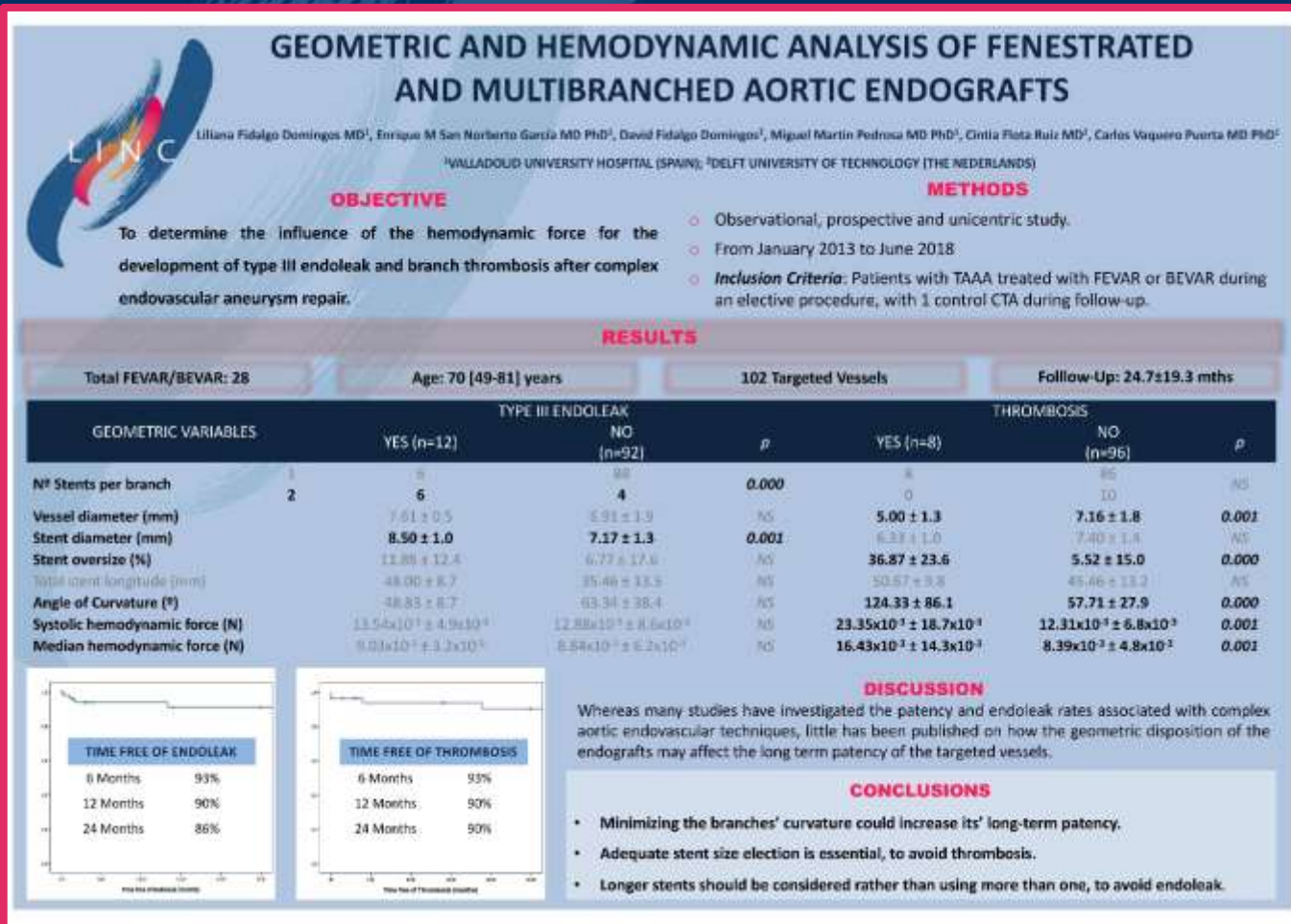
⑥ Conclusion

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

Original Research

Dr. Liliana Fidalgo Domingos

Geometric & hemodynamic analysis of fenestrated and multibranched aortic endografts



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