Challenges of the common femoral vein in chronic venous occlusion

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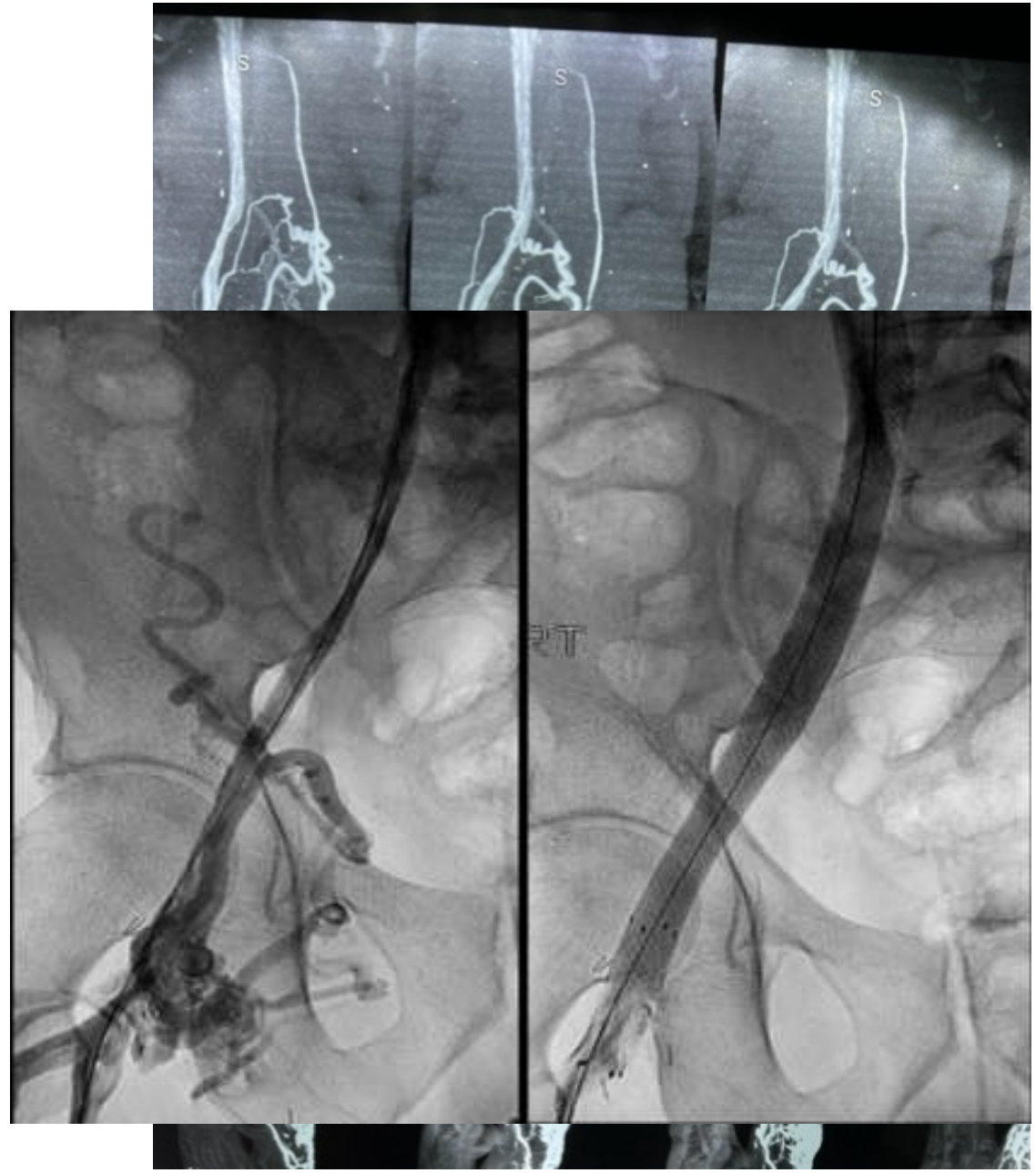
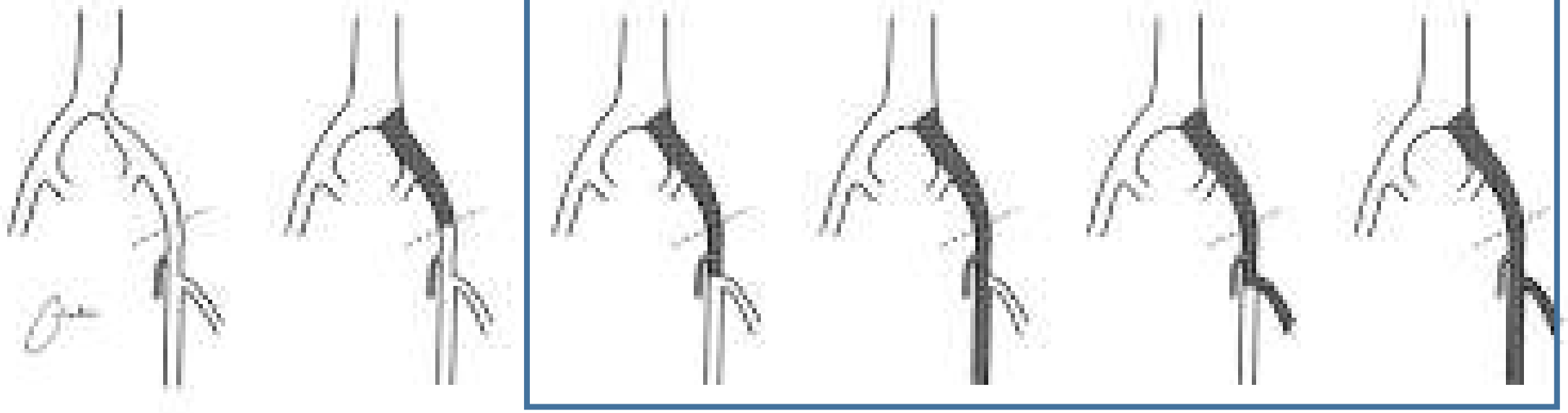
Ultrasound and venography in patients often show partial recanalization of the femoral vein with significant collateral vein formation.

These abnormal veins are insufficient for adequate venous drainage from the lower extremity as evidenced by the patient's continued symptoms.



Type 1 Type 2 Type 3 Type 4a Type 4b Type 5



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stenting below the ligament is reasonable to ensure adequate stent patency if the CFV is severely diseased

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Neglen, Furrh B 4th, Raju S. Axial transformation of the profunda vein sustains ilio-caval stenting in postthrombotic limbs [abstract]. J Vasc Surg. 2011;53:257

Assessment of the CFV in three ways

duplex scanning

the diameter of the vein,

persistence of web and spurs,

thickening of the vessel wall,

presence of residual clot.

venography

flow (there is no method that assess “adequate” flow),
lumen diameter,
residual clot,
collaterals

IVUS

accurate diameter,
precise assessment of the profunda and femoral vein confluence.

Extend the stent

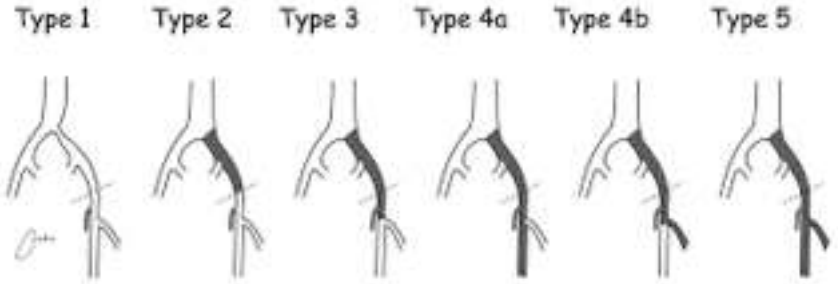
magnetic resonance venography

may show limited disease in the CFV.

stenting can be considered if the segment between the confluence of the femoral and profunda veins and the subsequent great saphenous vein is free of disease.

Type 1,2 and 3

Iliofemoral stenting



Proximal crossing

Popliteal

femoral

saphenous

contra

Jugular

From healthy to healthy

Type 1,2

Extend stenting to the CFV

Type 3

The principal question is whether a sufficient landing zone for the stent can be identified

?

the trabeculations, once stented, will be pushed away or toward the profunda confluence.

this will compromise inflow, and the patient will then require an endophlebectomy

when a CFV stent compromises drainage from the profunda femoris veins, the patient's postthrombotic symptoms worsen

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If collateral outflow persists after common iliac vein stenting this usually is a sign of inadequate stent extension caudally

If the inflow vessels are poor and stents have been extended to the confluence of the profunda and femoral veins (with or without endophlebectomy),

extend the stents into either the profunda or the femoral vein

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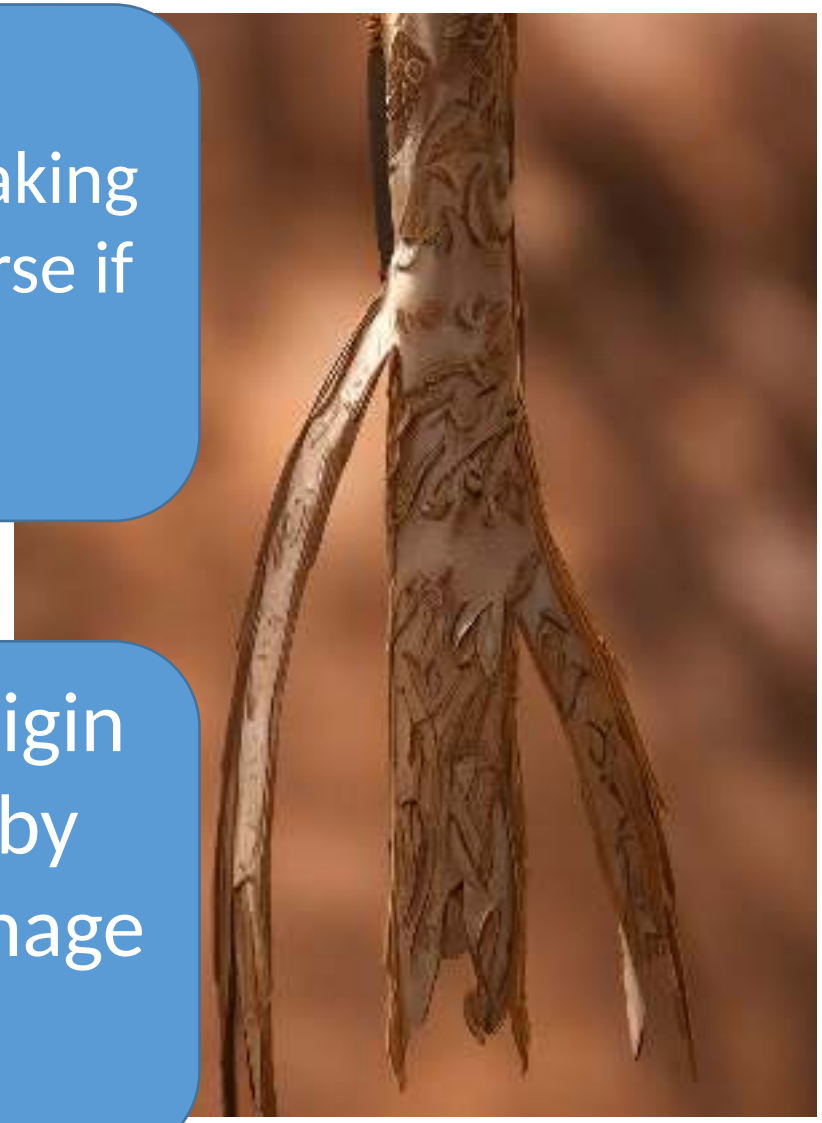
carries significant risk of making the patient significantly worse if the stents occlude

may compromise the origin of the profunda, thereby occluding collateral drainage of the leg.

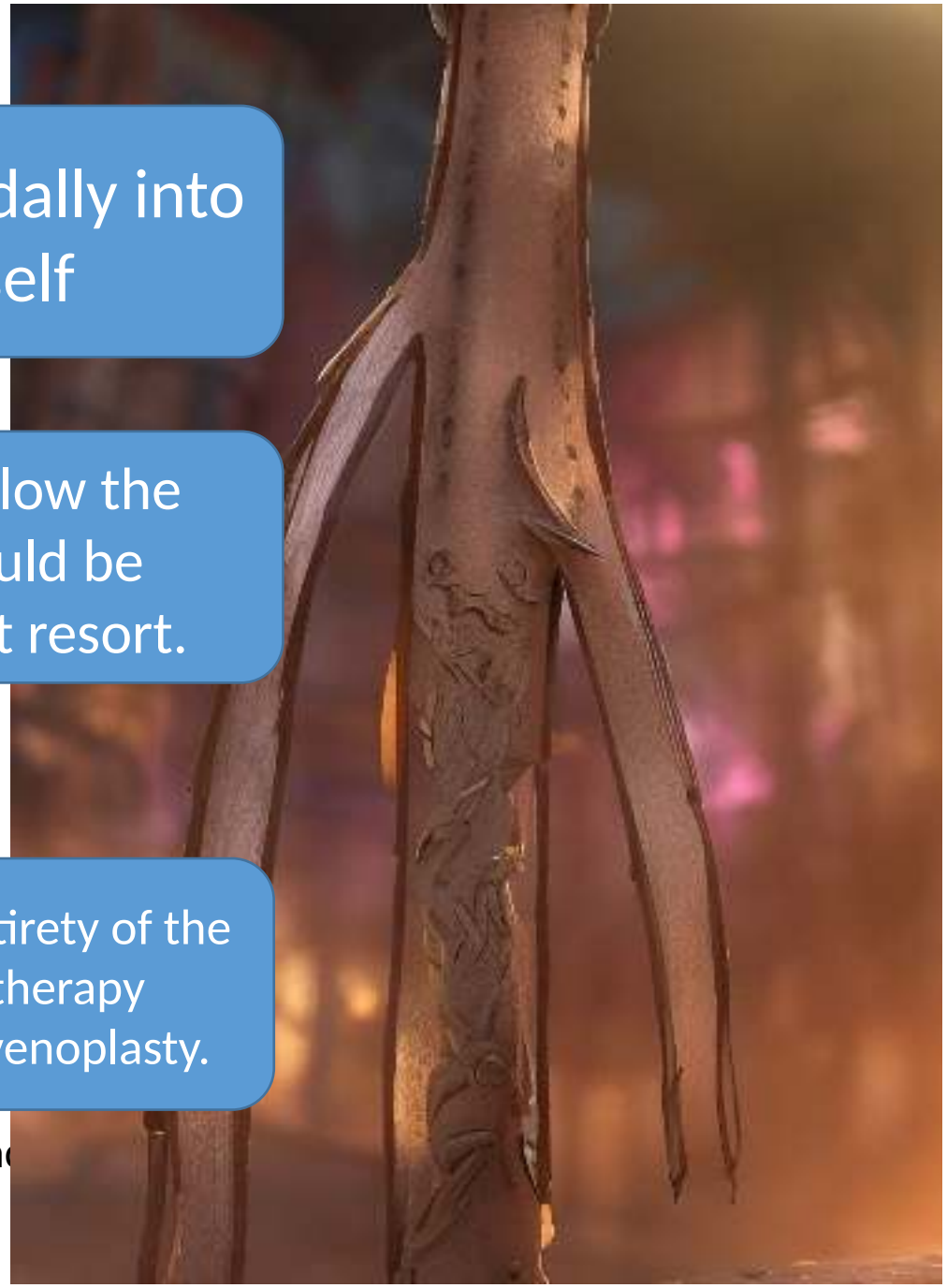


if the profunda ve is the only inflow vesse

extend the stents caudally into the profunda itself

any stent extension below the lesser trochanter should be considered only as a last resort.

aggressively venoplasty the entirety of the femoral vein and run lytic therapy overnight followed by repeat venoplasty.

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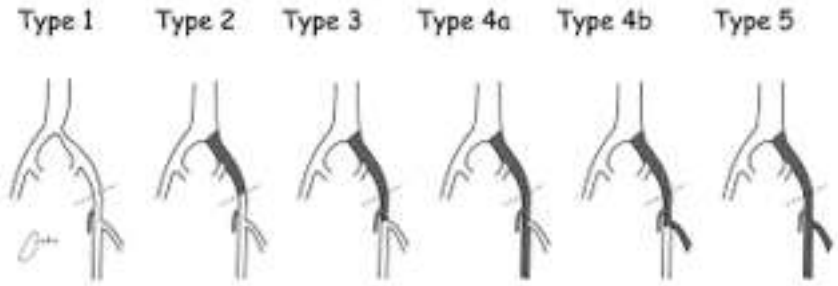
Type 4 and 5

endophlebectomy



Proximal crossing

+ve

stenting

-ve

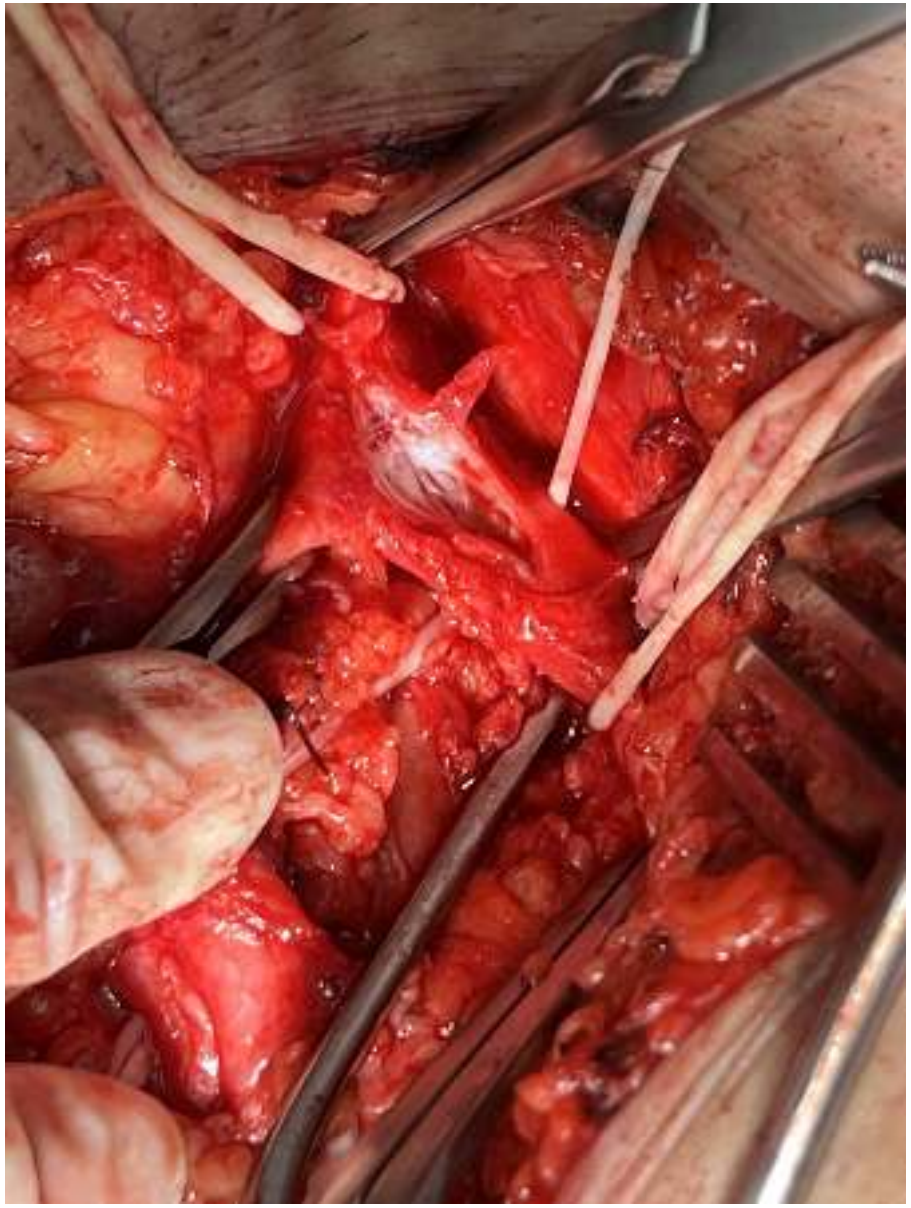
Palma

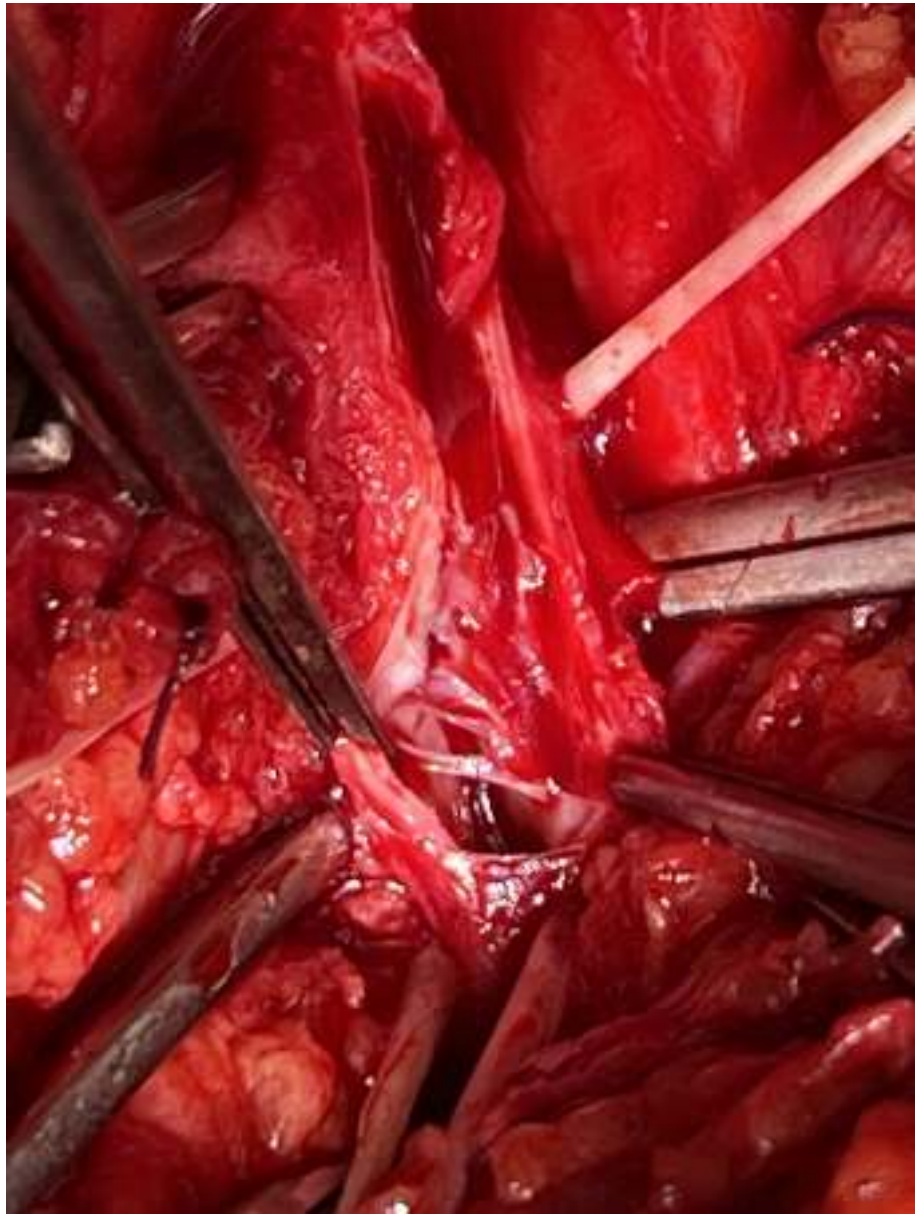
With AVF

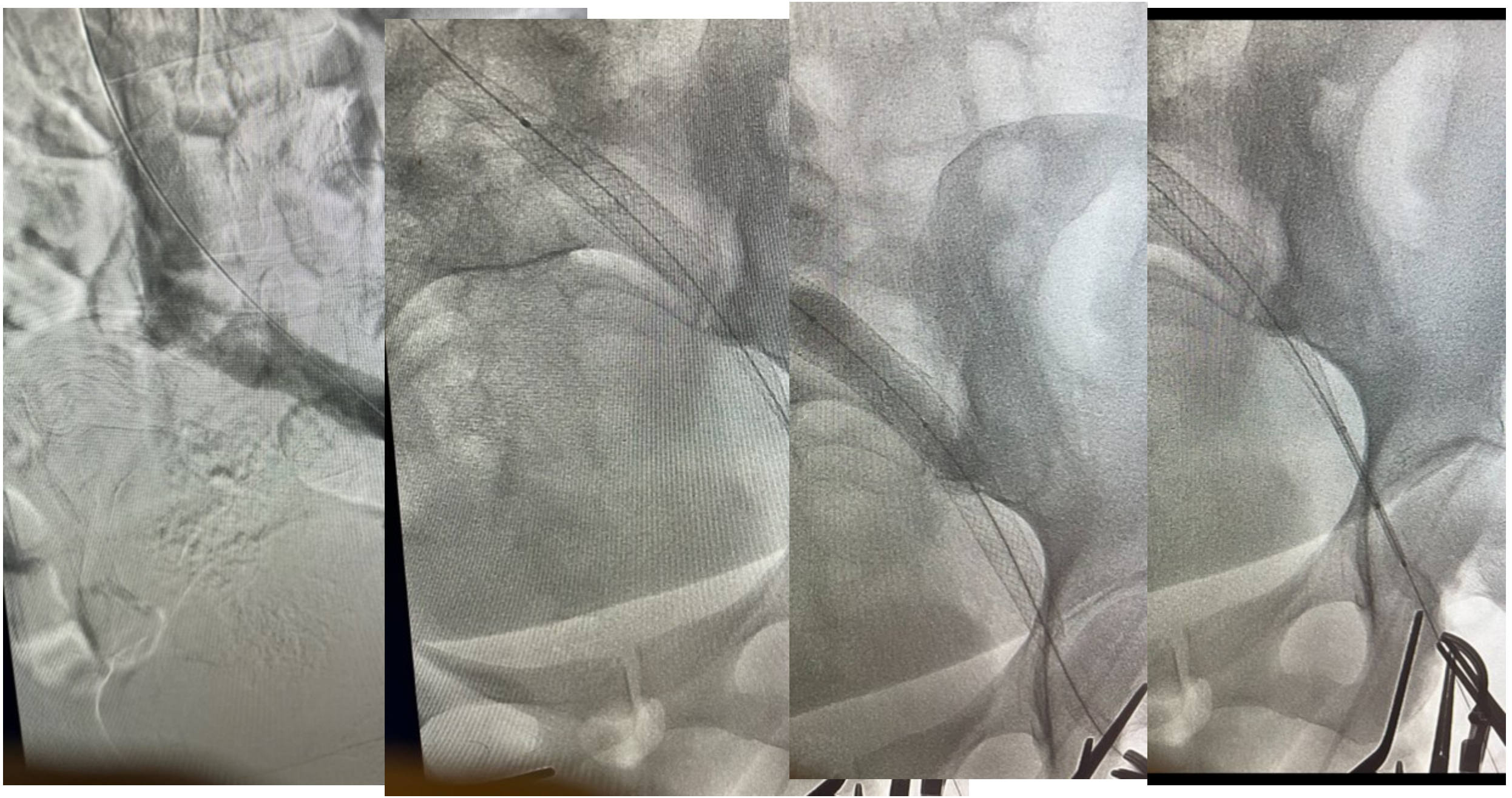
Without AVF

Saphenous if more than 5mm

Synthetic if less than 5mm





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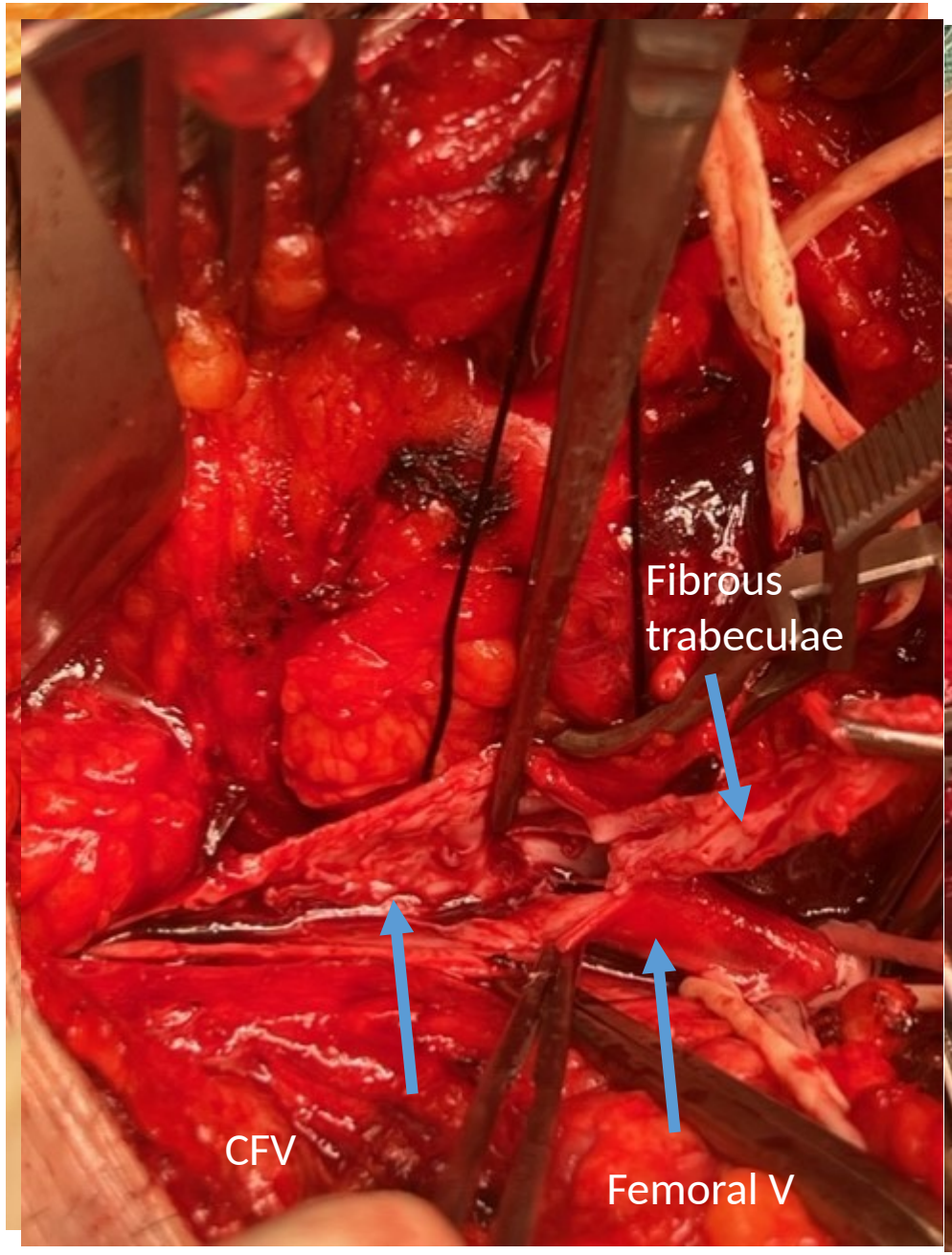
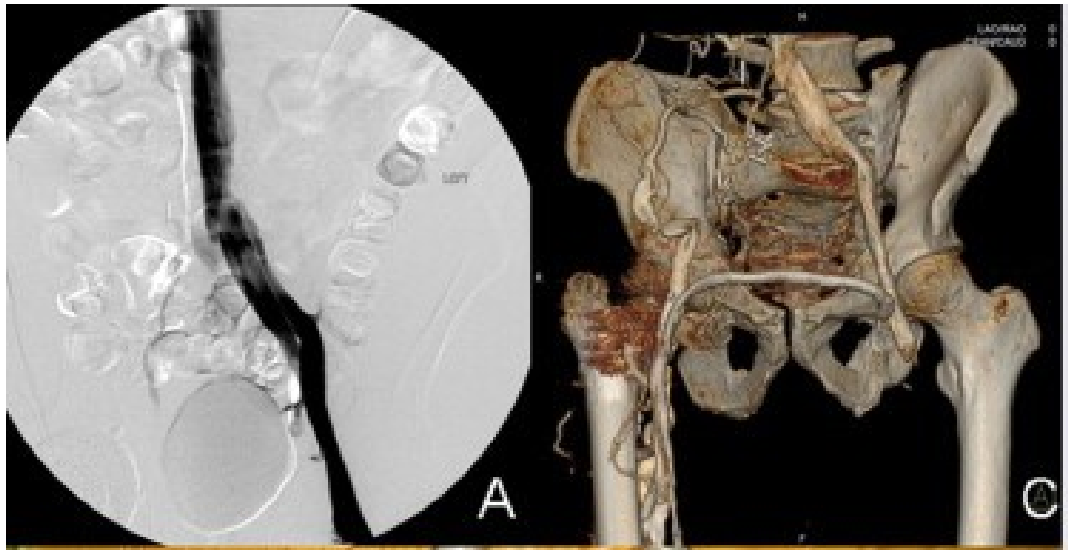

Fibrous trabeculae
CFV
Femoral V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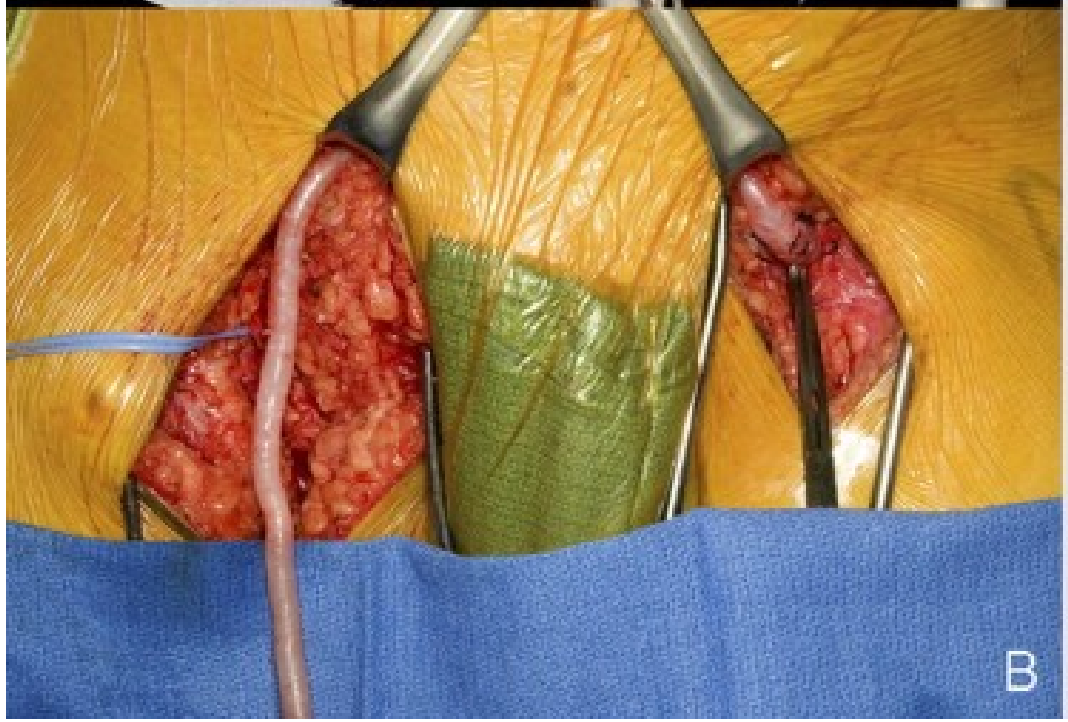
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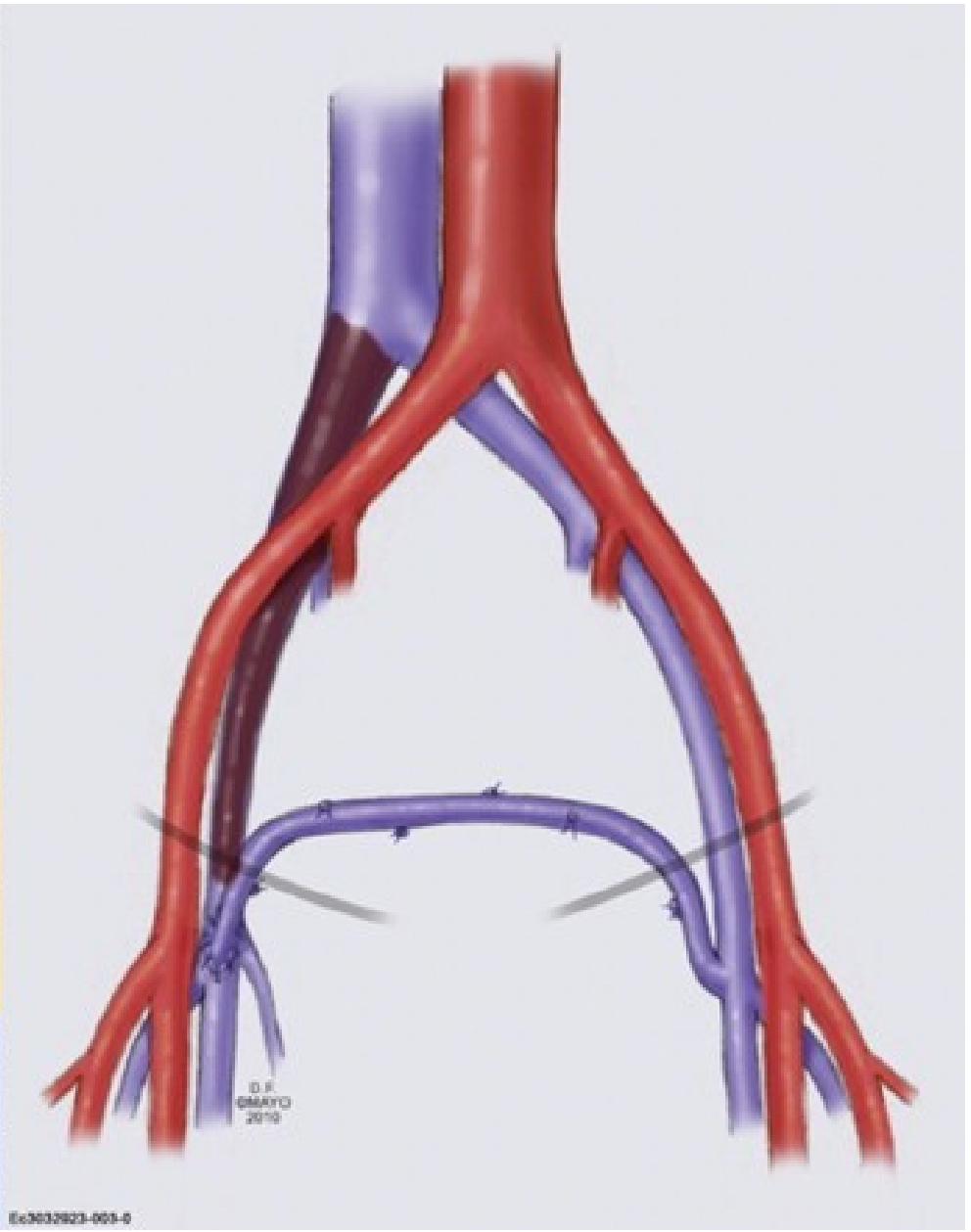
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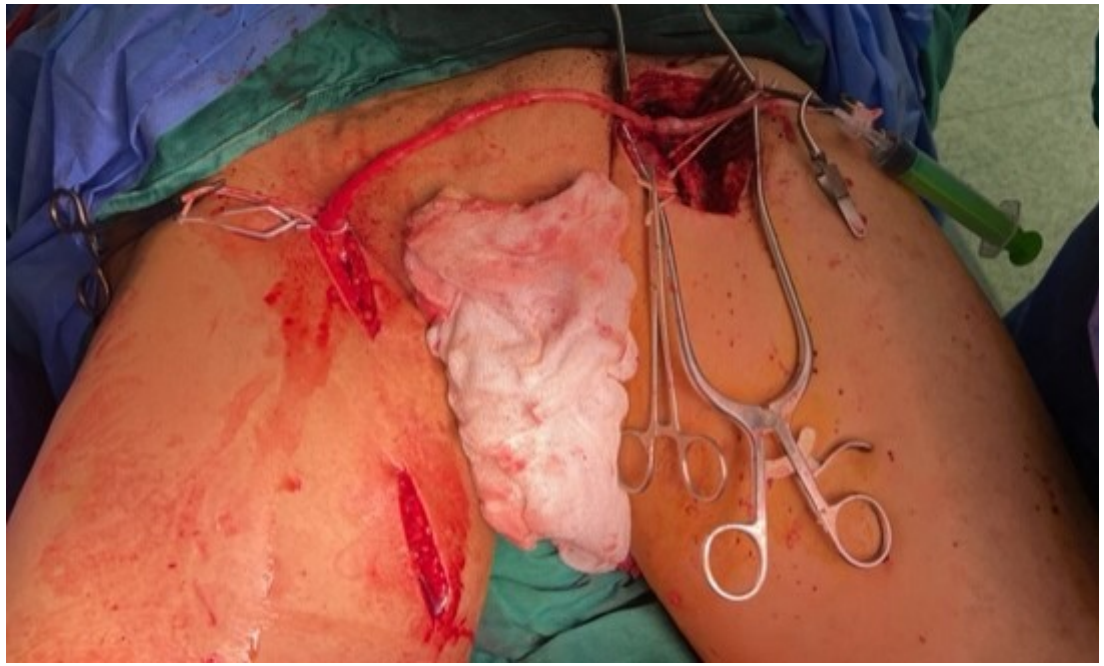


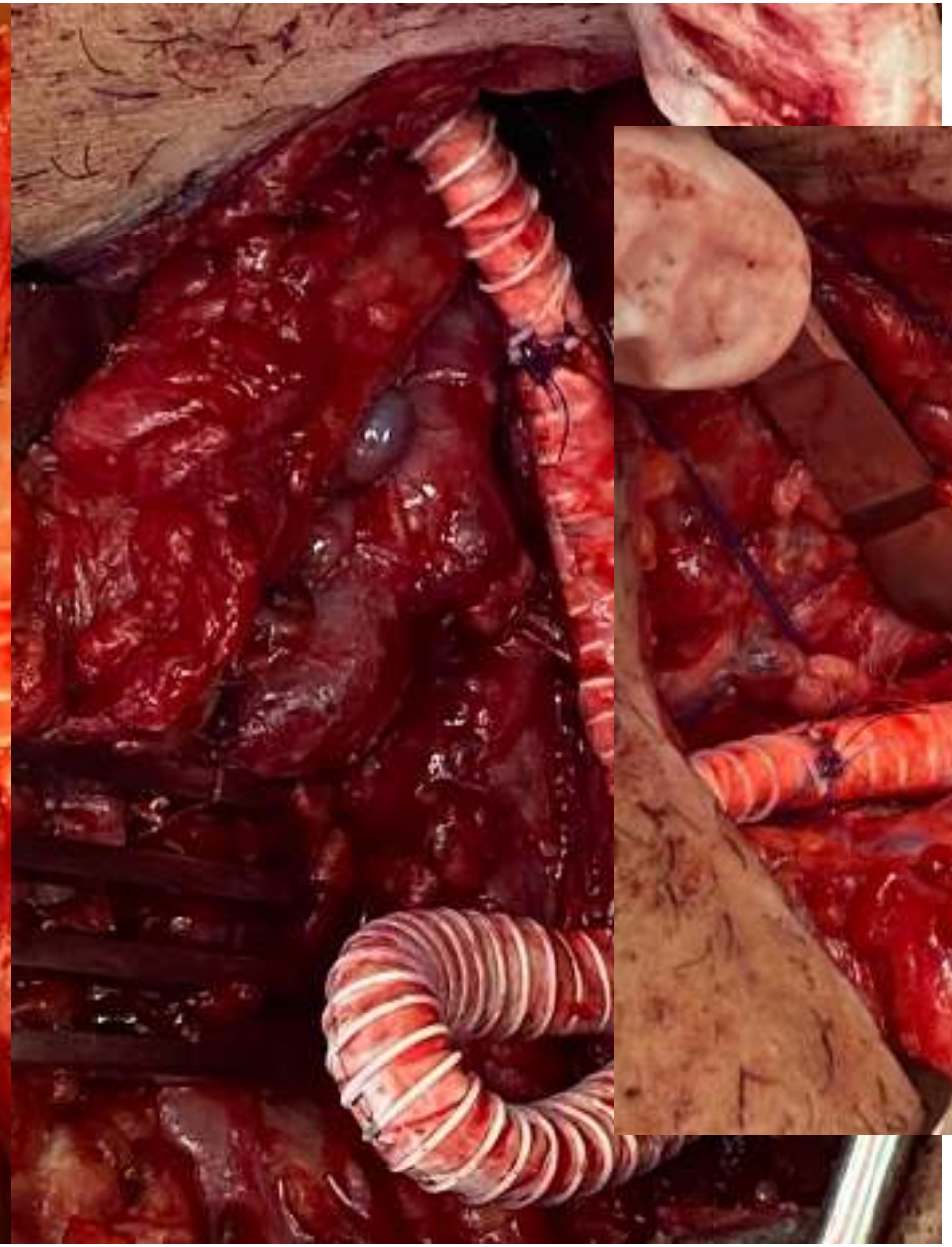
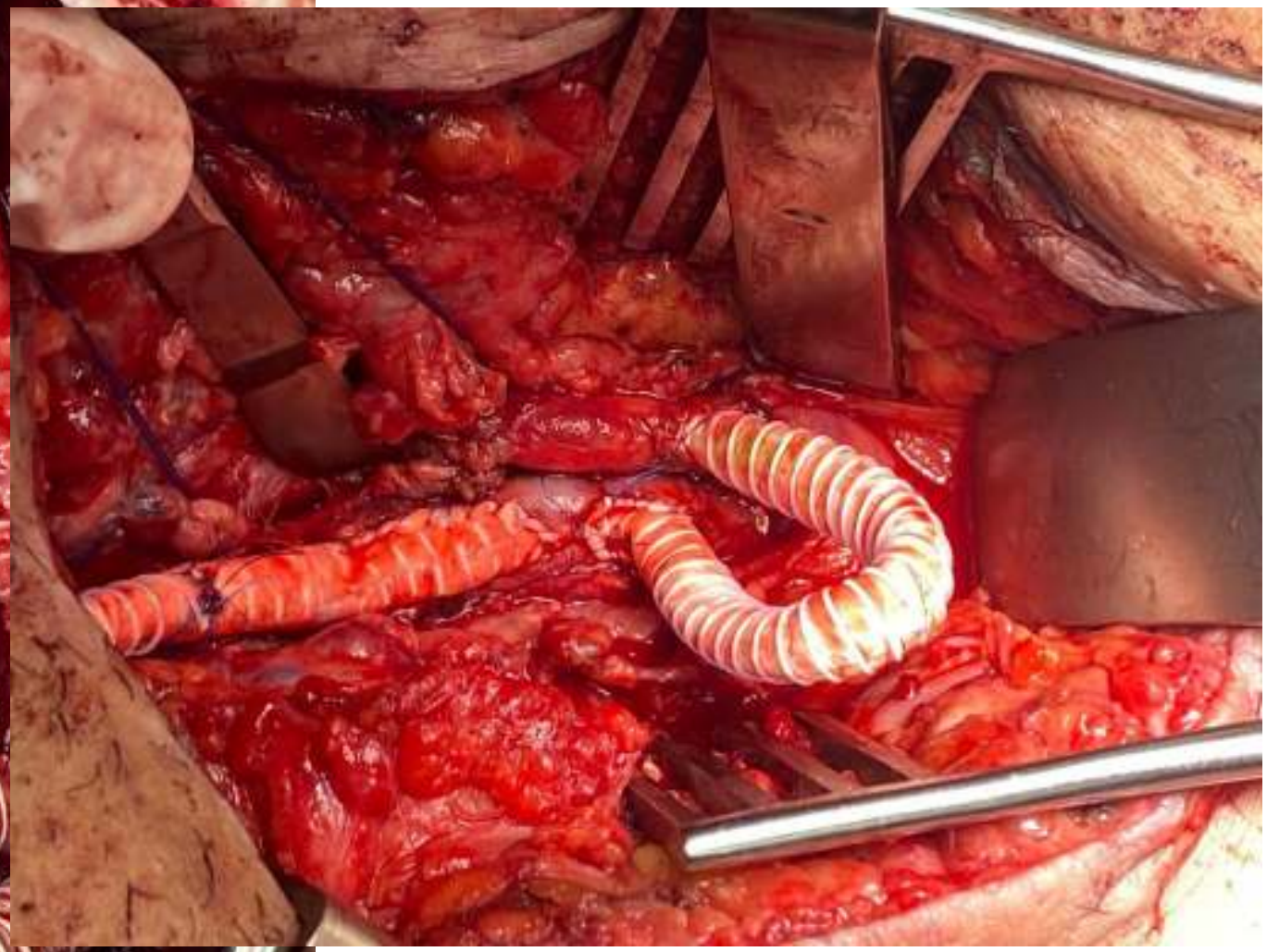

Take home message

- The common femoral vein poses many challenges
- A common site of involvement in fem-pop and ilio-fem DVT
- Stenting this site is associated with 3.8% risk of thrombosis

- Patency is dependent on the inflow from the profunda and femoral veins
- Persistence of collaterals after stenting is an indication of extension of stenting

- Extension of stenting into the profunda and femoral veins is associated with a high risk of re-occlusion

Take home message

- Open surgical reconstruction patency is affected by
- The quality of conduit,
- graft material,
- The venous pressure,
- Thrombophilia that is frequently present in these patients

- HR are viable option if endovascular procedures fail or are not feasible.

- Palma vein bypass has excellent outcomes with good symptomatic relief


Thank You