Rutherford 6

Clinical Case 1

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Bergamo
Italy

A Rutherford 6 patient

- 69-year-old male
- type 2 DM
- ex-heavy smoker (>40 sigarettes/day for >40 yrs)
- Creatinine 1.6 mg/dL
- Presentation: left foot pain & 4° toe gangrene

A Rutherford 6 patient

2009 LEFT LEG VASCULAR INTERVENTION performed in another center		
Jan	External Iliac PTA & stenting	No benefit
Feb	Common femoral TEA, complicated by surgical wound infection	No benefit
May	Common femoral PTA & stenting	No benefit
Jun	**Tight amputation is the only solution!!!**	

transferred to our Center

Forefoot dorsal dry gangrene

No local and systemic signs of infection

Diagnosis

Forefoot dorsal dry gangrene→RTF 6/TUC IIIC

Rutherford		
Grade	*Category*	*Clinical*
0	0	Asymptomatic
I	1	Mild claudication
I	2	Moderate claudication
I	3	Severe claudication
II	4	Ischemic rest pain
III	5	Minor tissue loss
III	6	Major tissue loss

University of Texas Wound Classification System		Grade			
		0 Pre or post ulcerative lesion completely epithelialized	I Superficial wound,	II Wound penetrating to tendon or capsule	III Wound penetrating to bone or joint
Stage	A No infection or ischemia	0A	IA	IIA	IIIA
	B Infection present	0B	IB	IIB	IIIB
	C Ischemia present	0C	IC	IIC	IIIC
	D Infection and ischemia present	0D	ID	IID	IIID

Treatment protocol in TUC C wounds (ischemia without infection)

1°

Urgent medical therapy

- Metabolic balance
- Anemia correction
- Heart evaluation
- Pre-medications:
  - Double anti-PLTs therapy
  - Renal protection

2°

Revascularization

PTA/Bypass are performed before the surgical treatment of the foot lesion

3°

Final treatment

- Medical
- Surgical
- Orthopedic
- Rehabilitation

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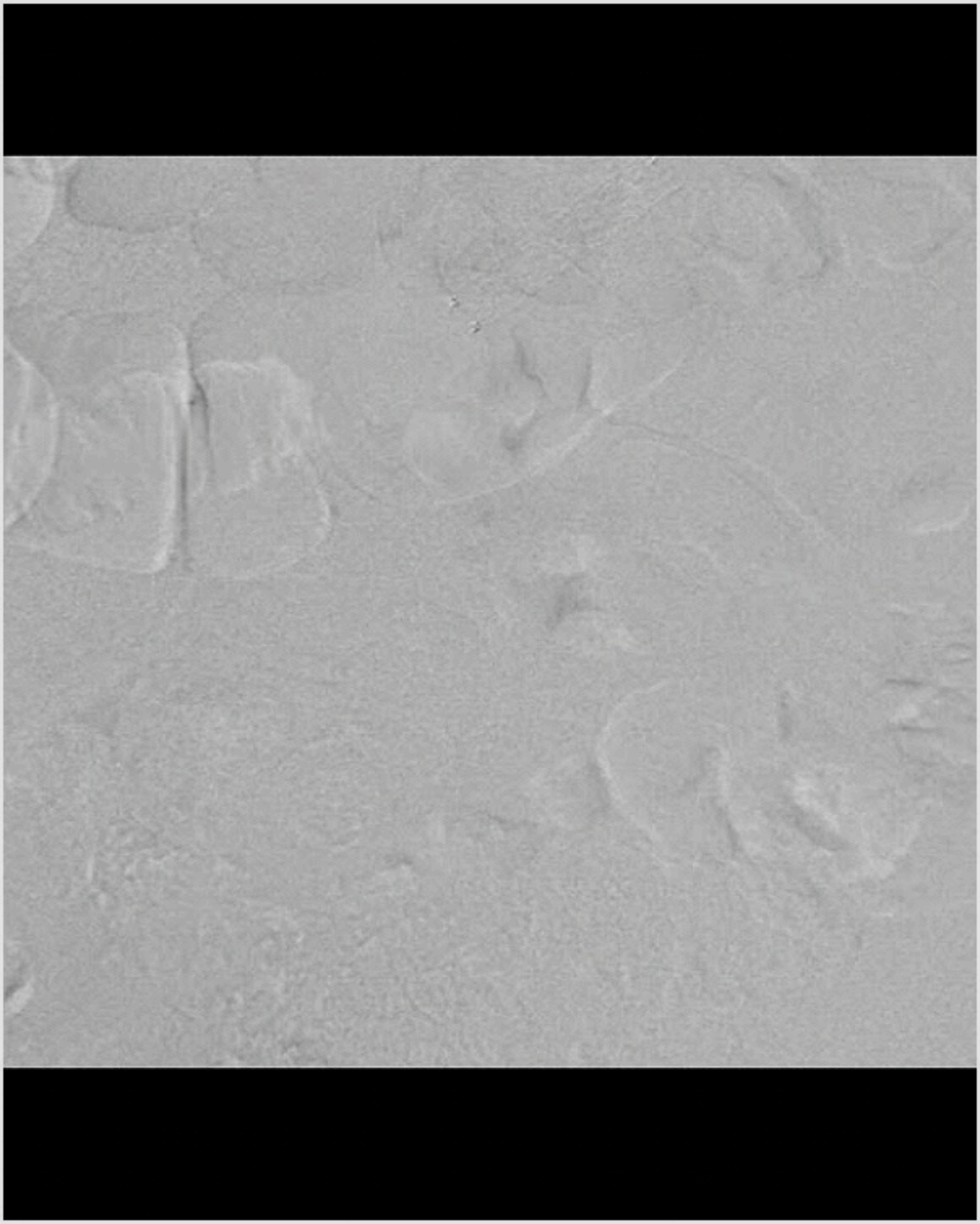
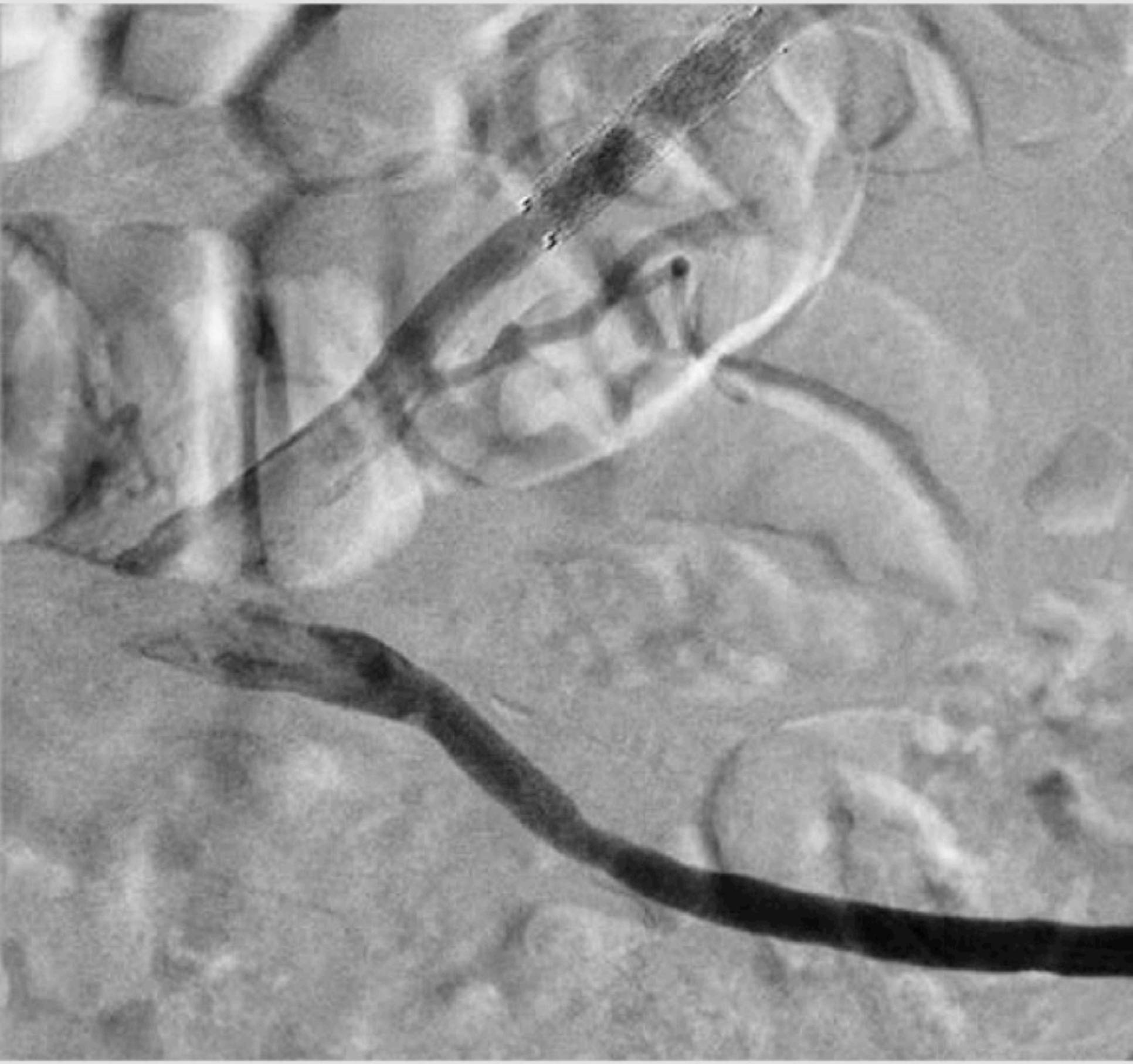
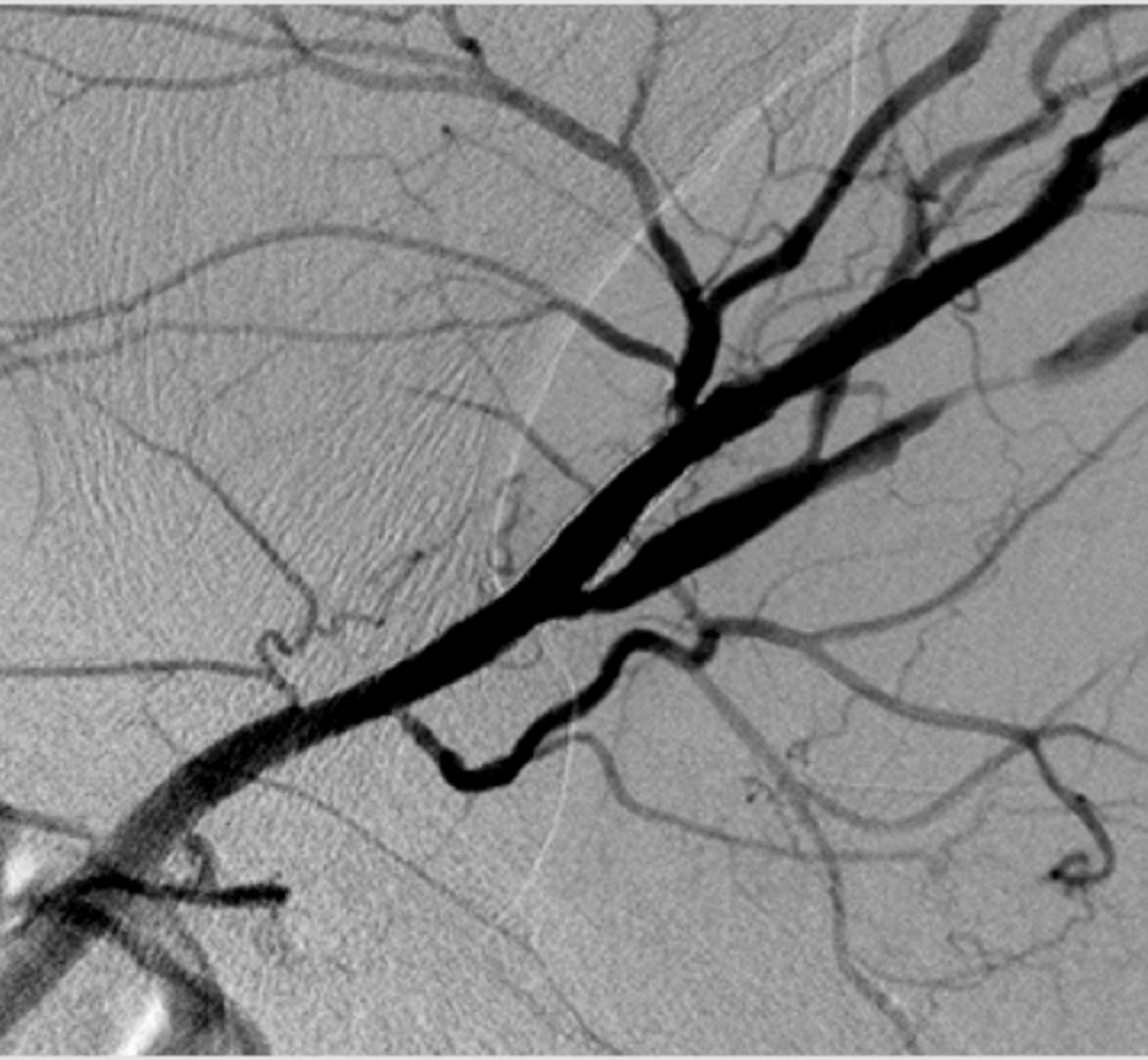
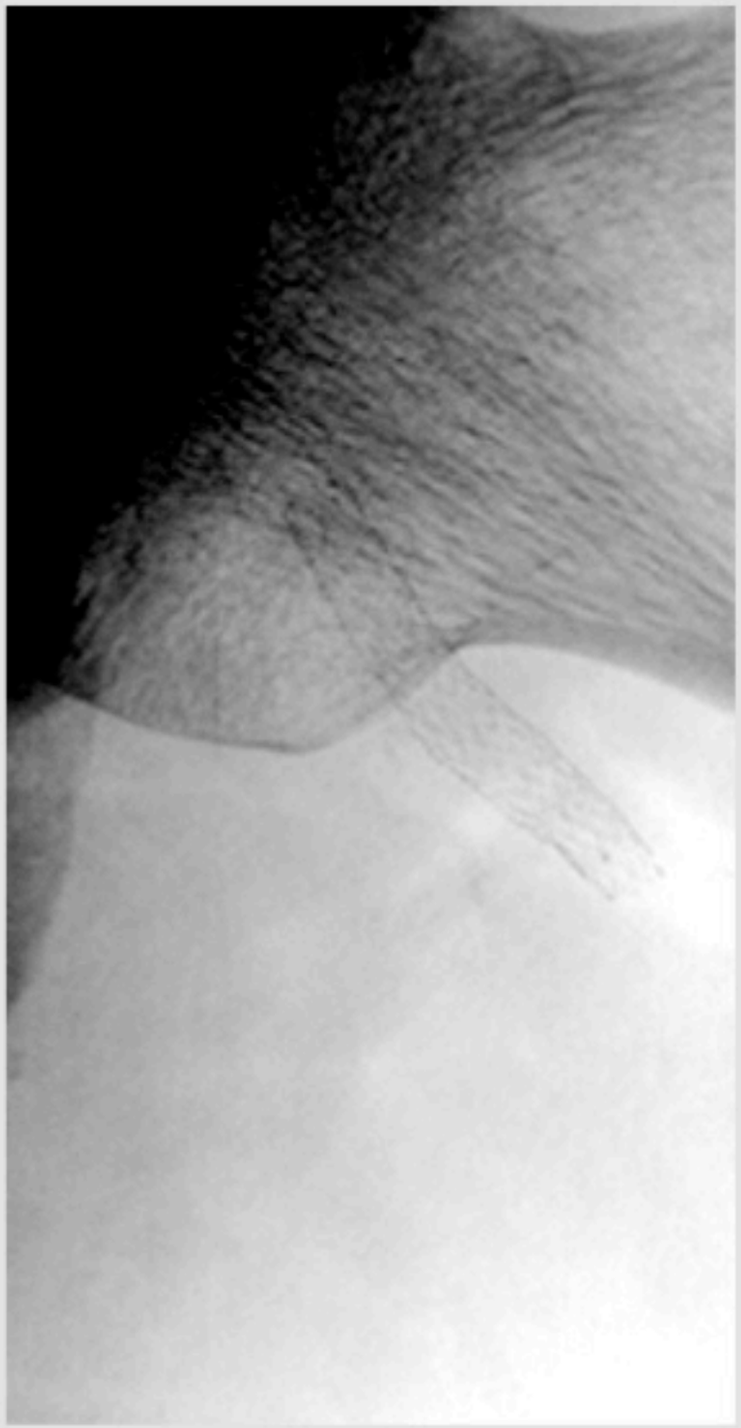
STEP 1

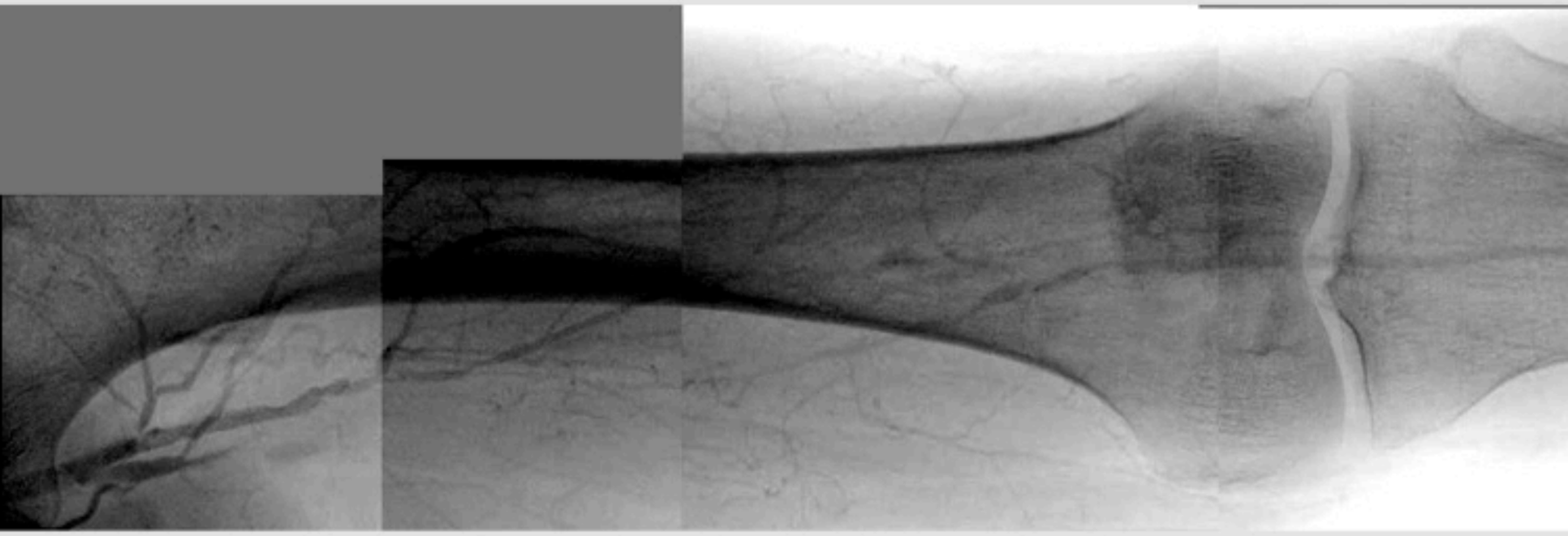
Angiographic study









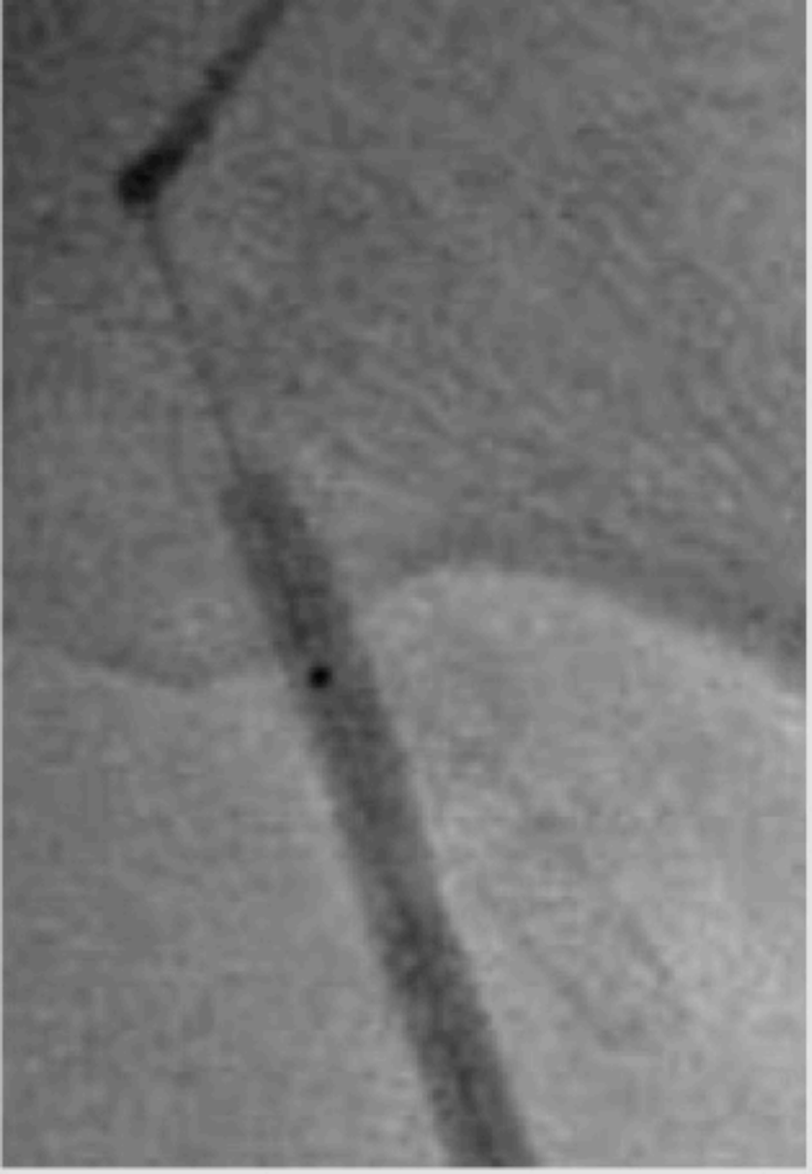


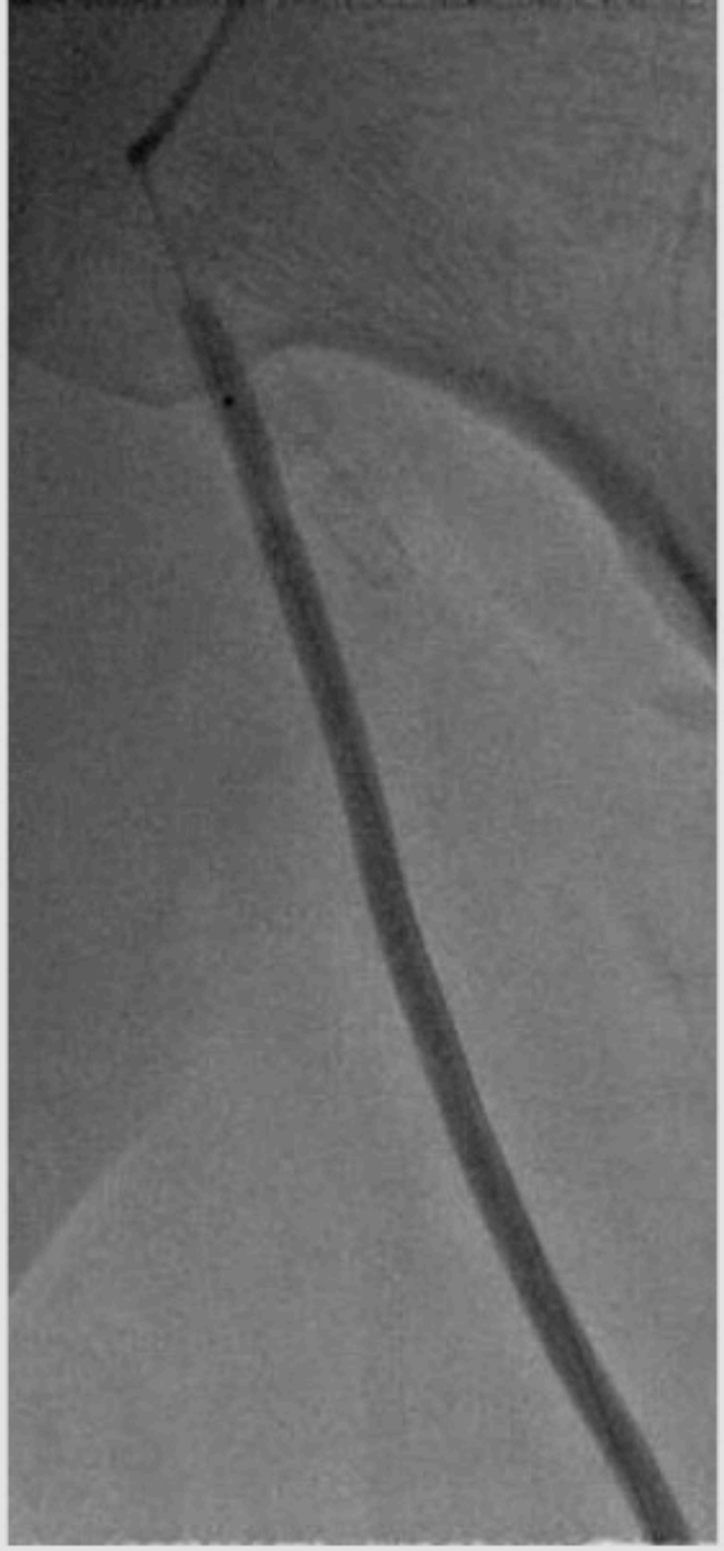
STEP 2

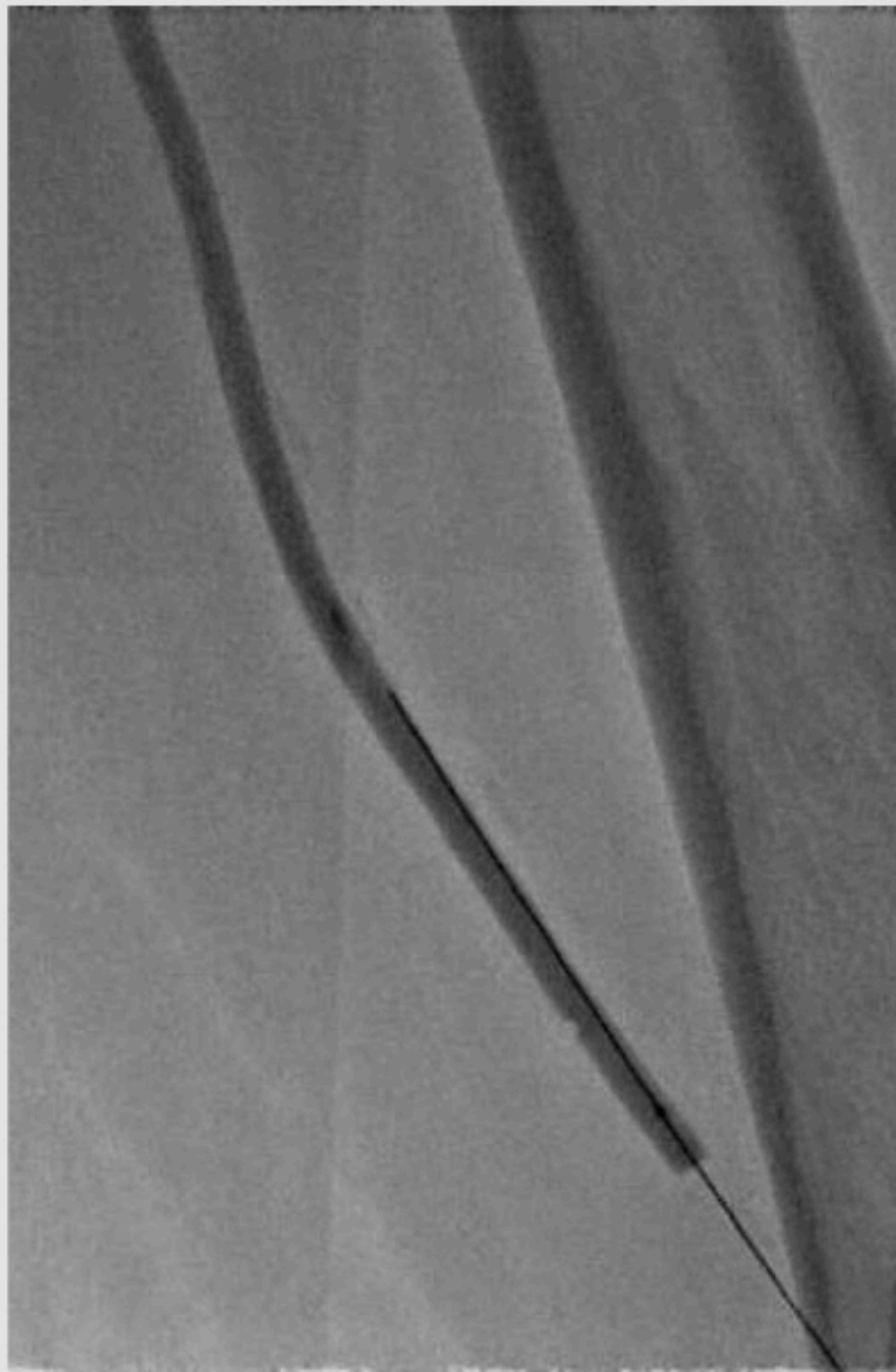
- **Open SFA**

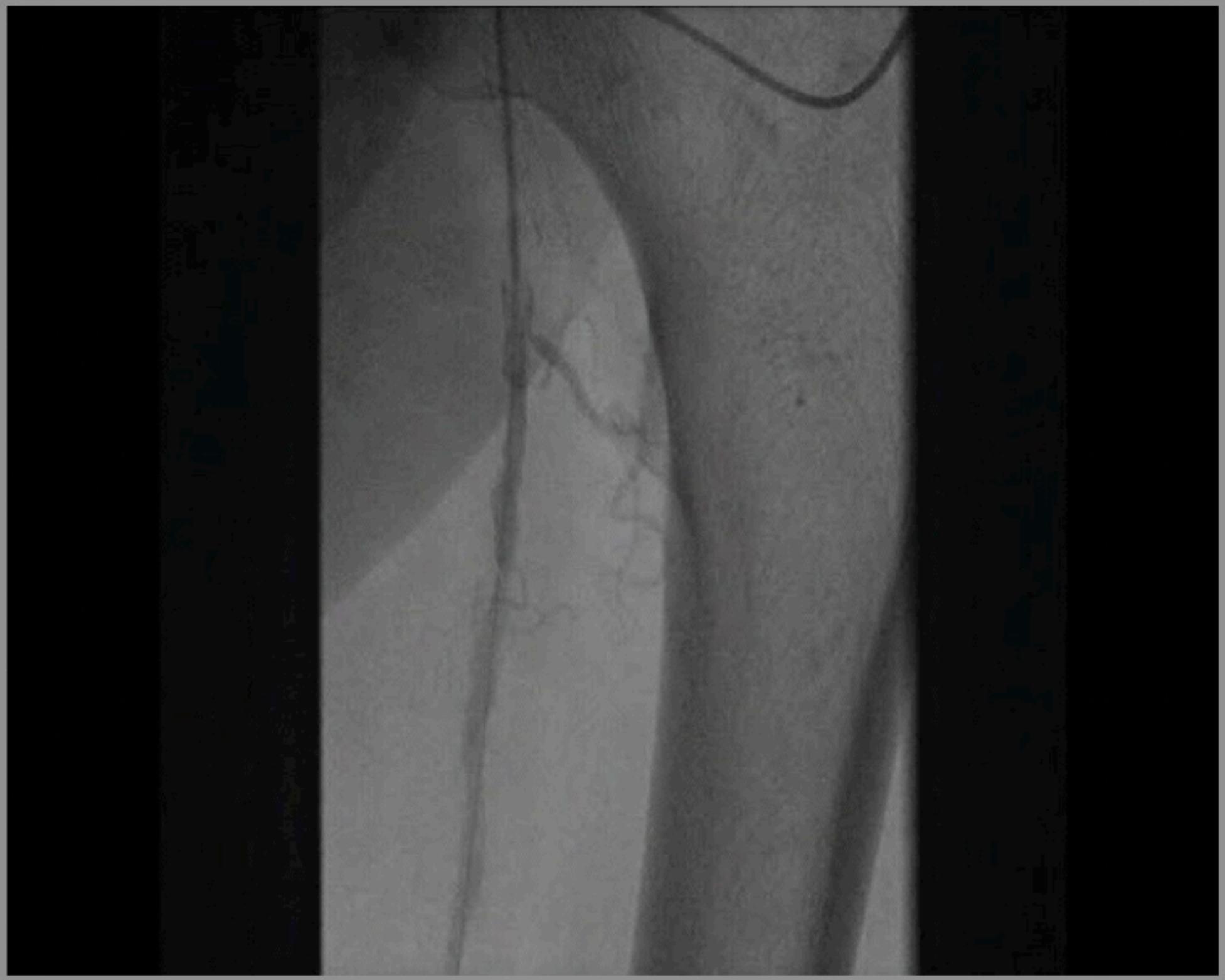
1. Shift to antegrade femoral approach
2. 4 Fr sheath
3. Berenstein catheter

- **Better ANGIO on POP & BTK vessels**



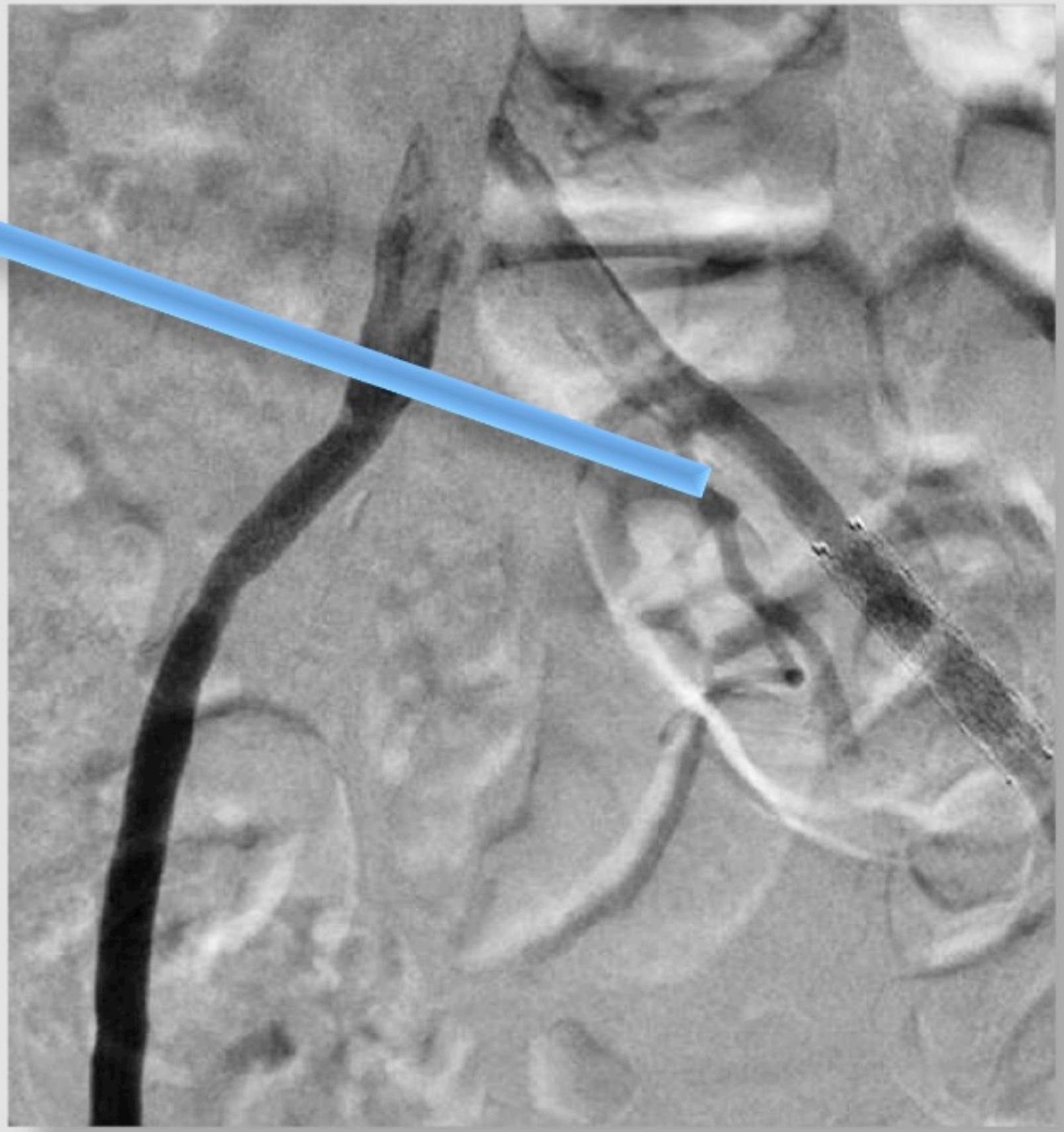


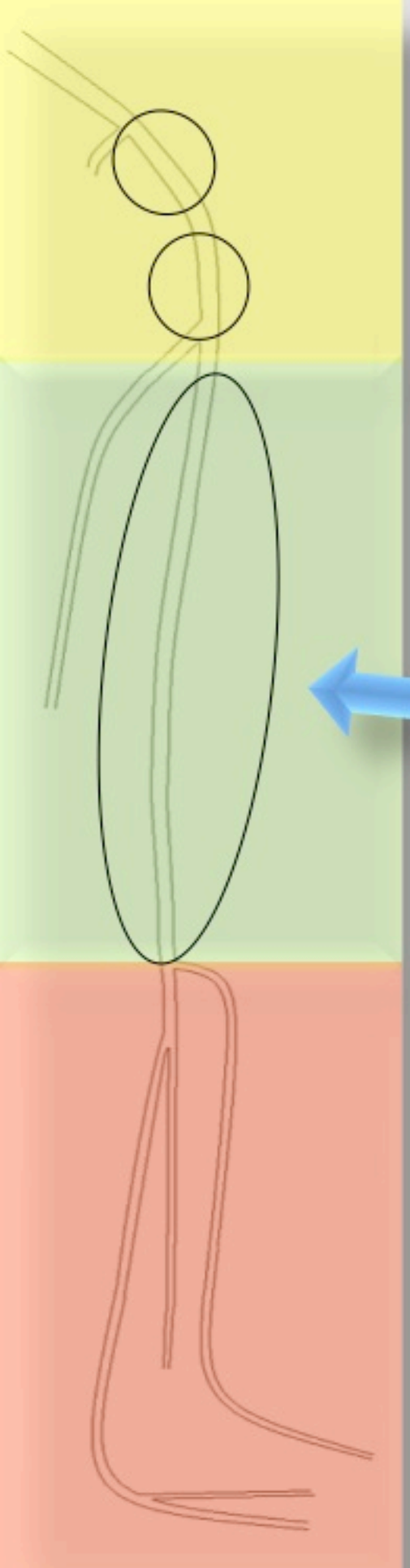


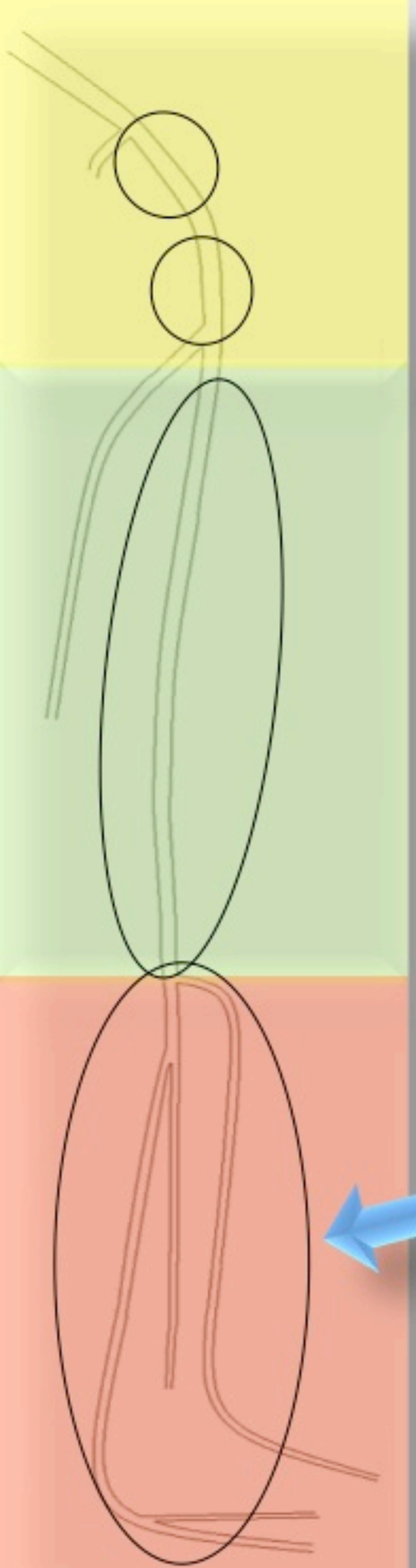


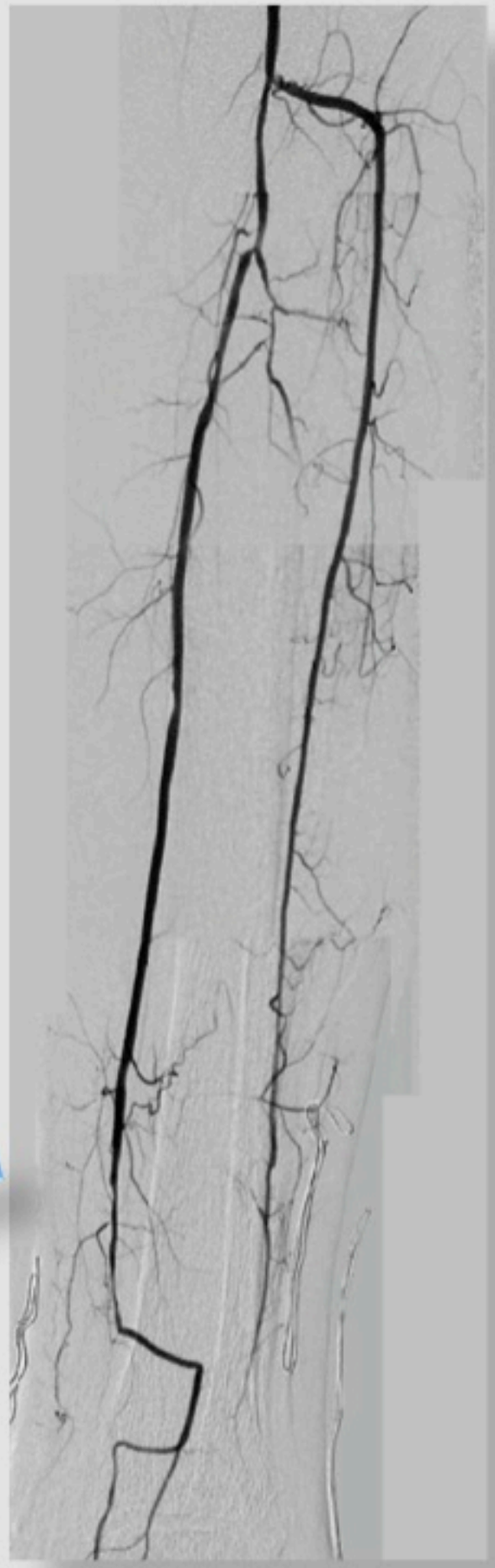
STEP 3

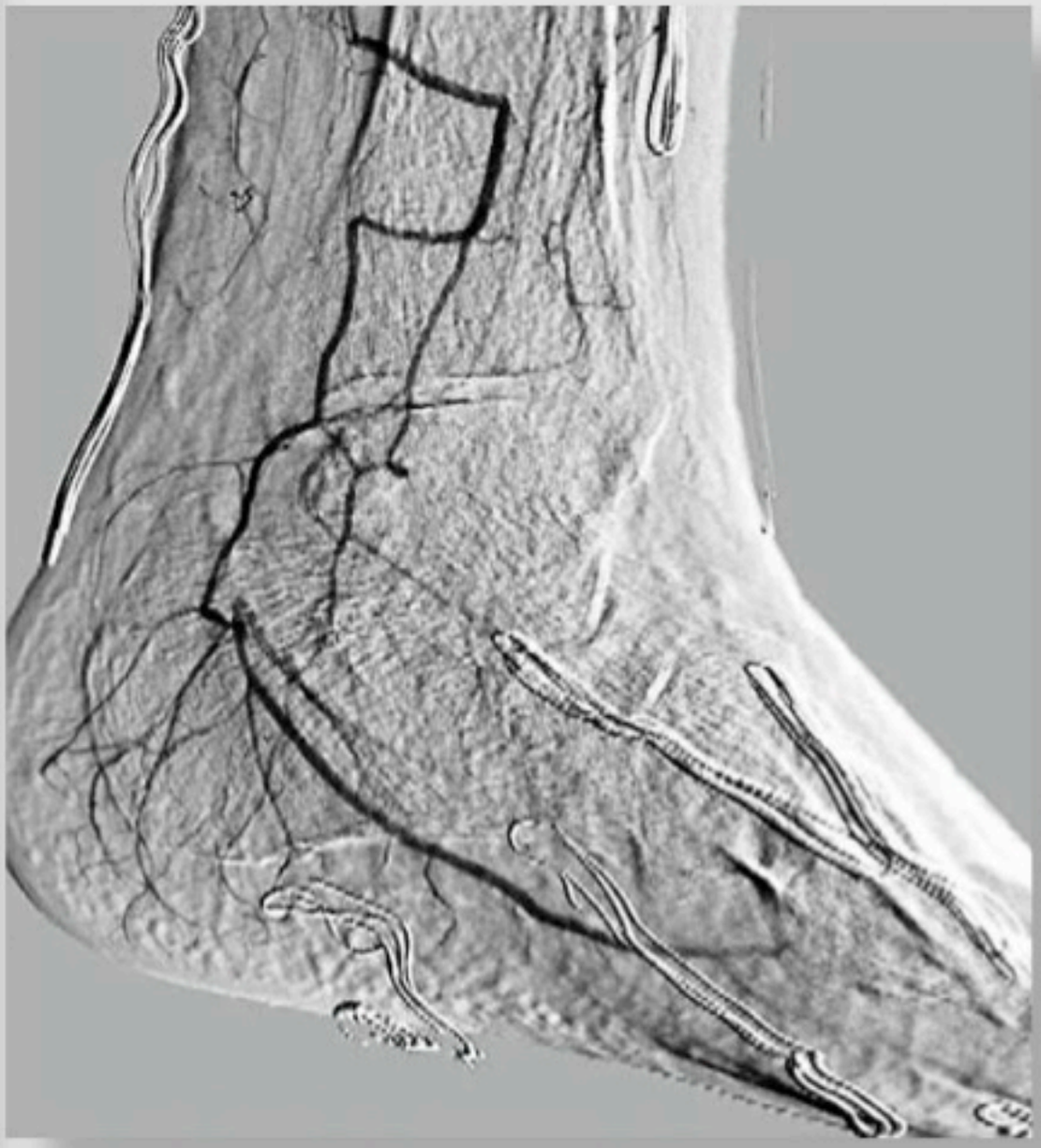
To understand the pathophysiology of CLI in this patient

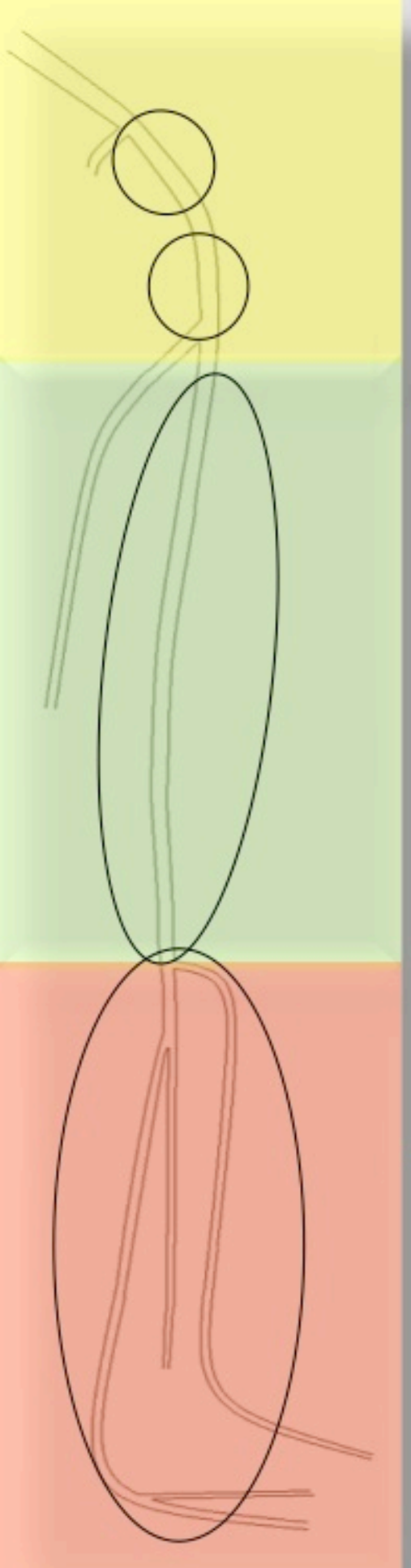


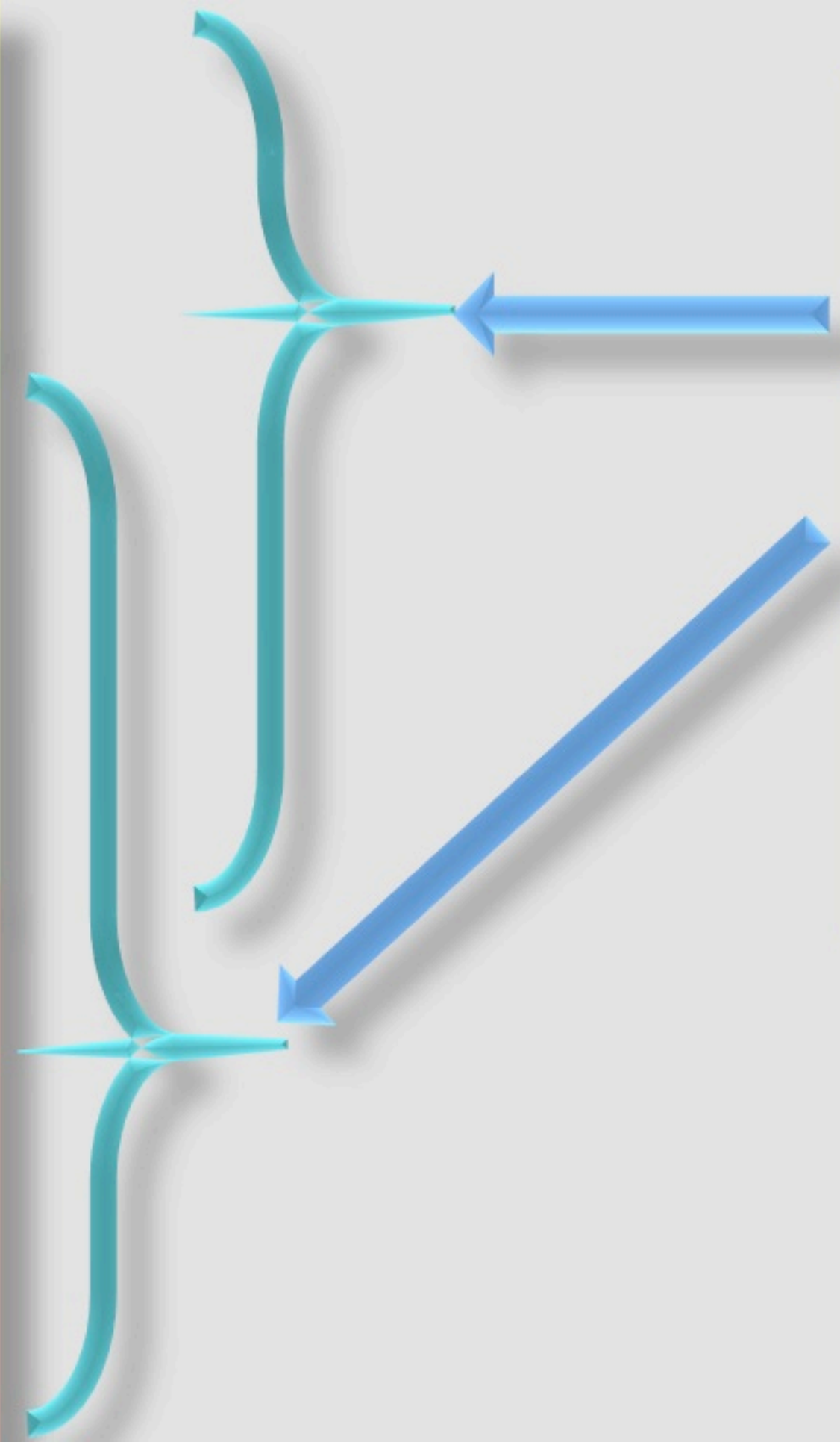






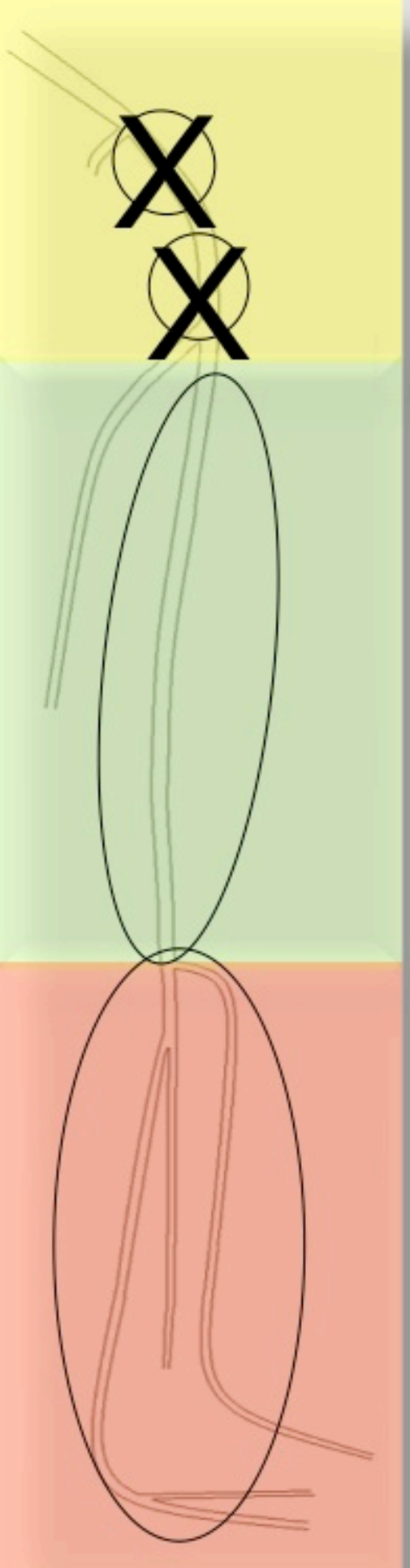




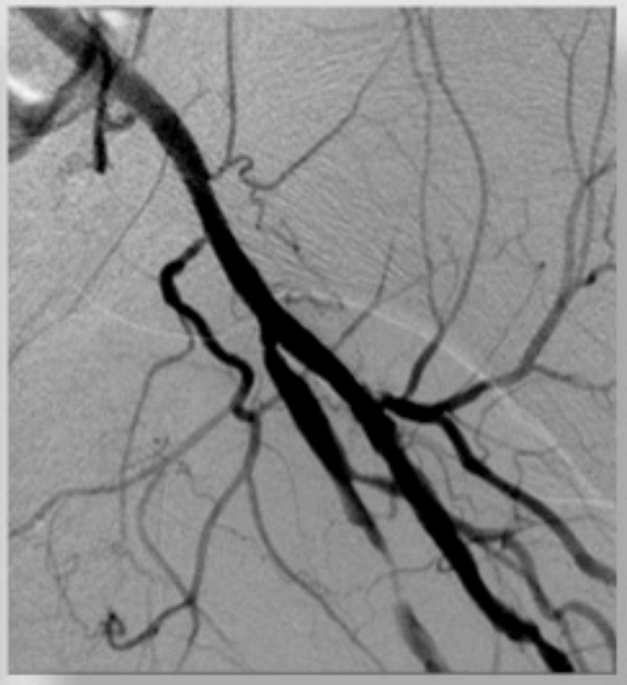


- 69-year-old male
- ex-heavy smoker
- type 2 DM

The patients has a multilevel obstructive disease

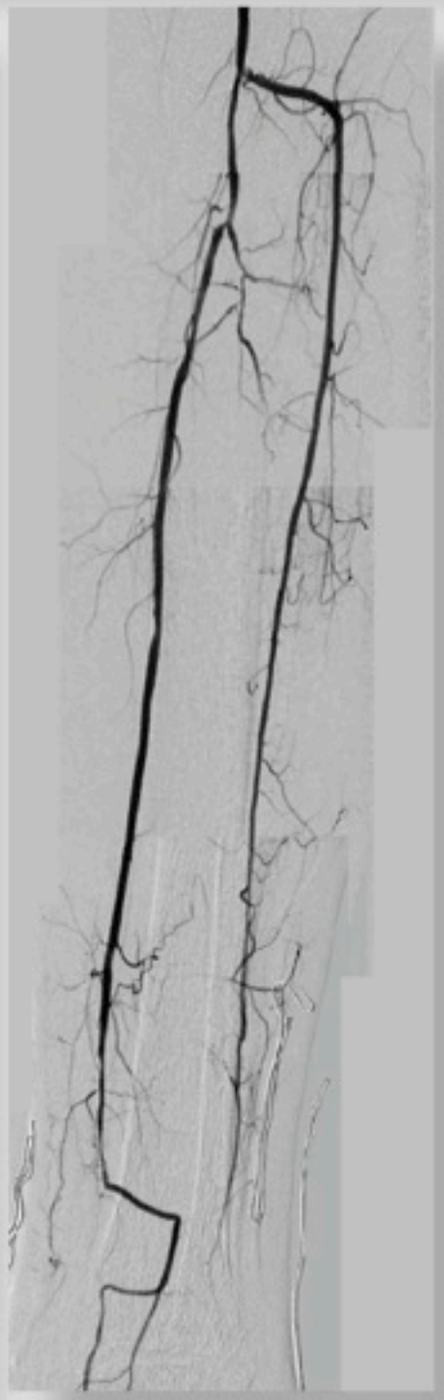


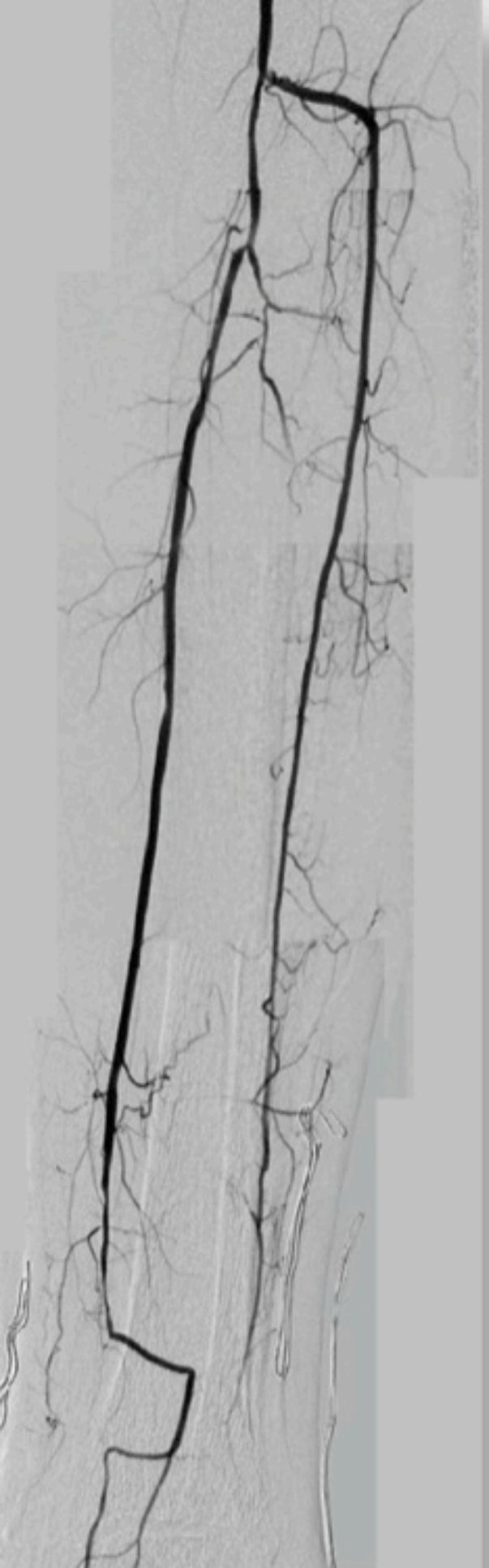
The treatment of iliac and common femoral artery disease (stenting in direction of profunda femoris) was clearly insufficient to obtain healing. Tissue damage progressed due to gangrene

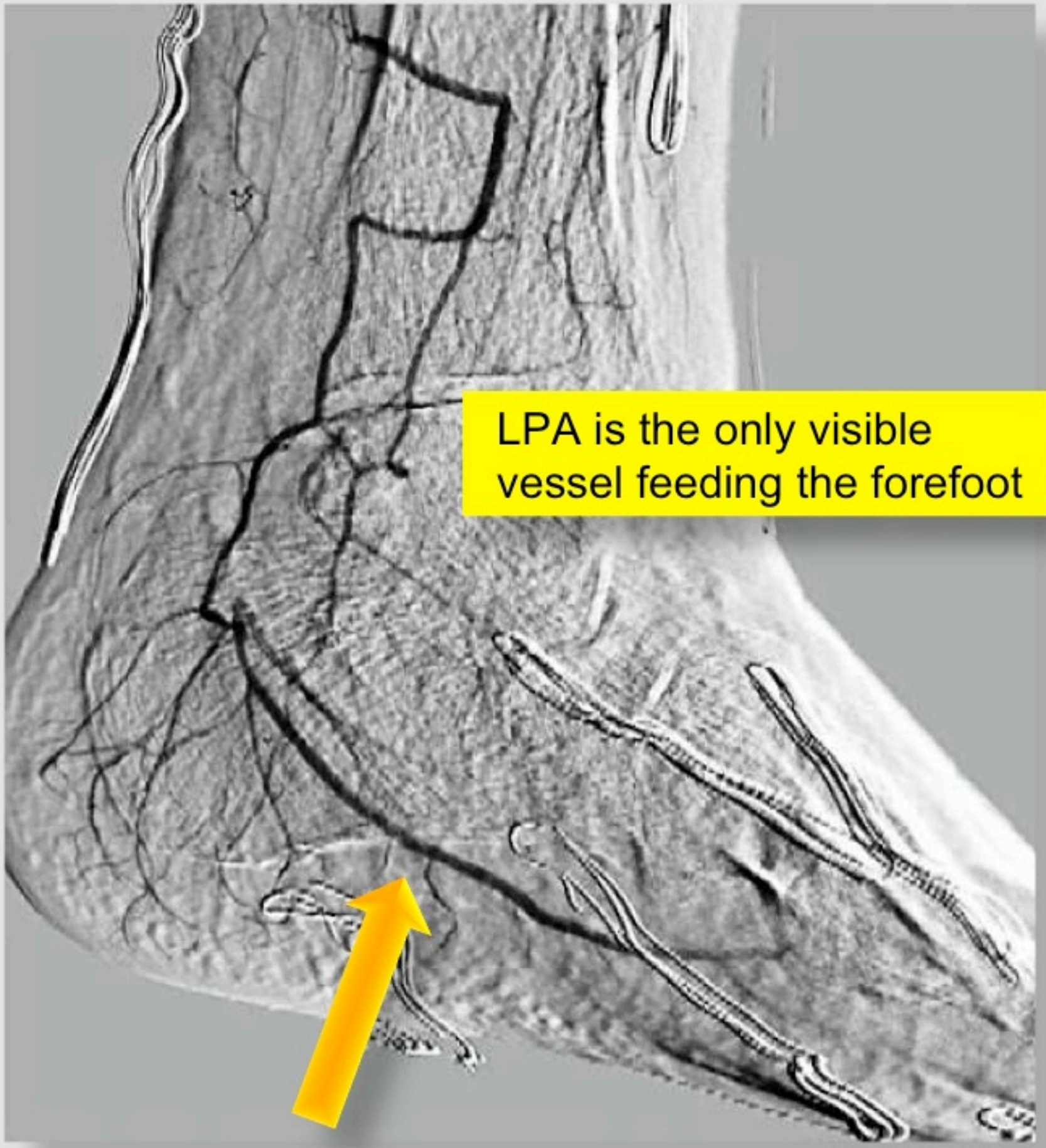


STEP 4

Identify your target






LPA is the only visible
vessel feeding the forefoot

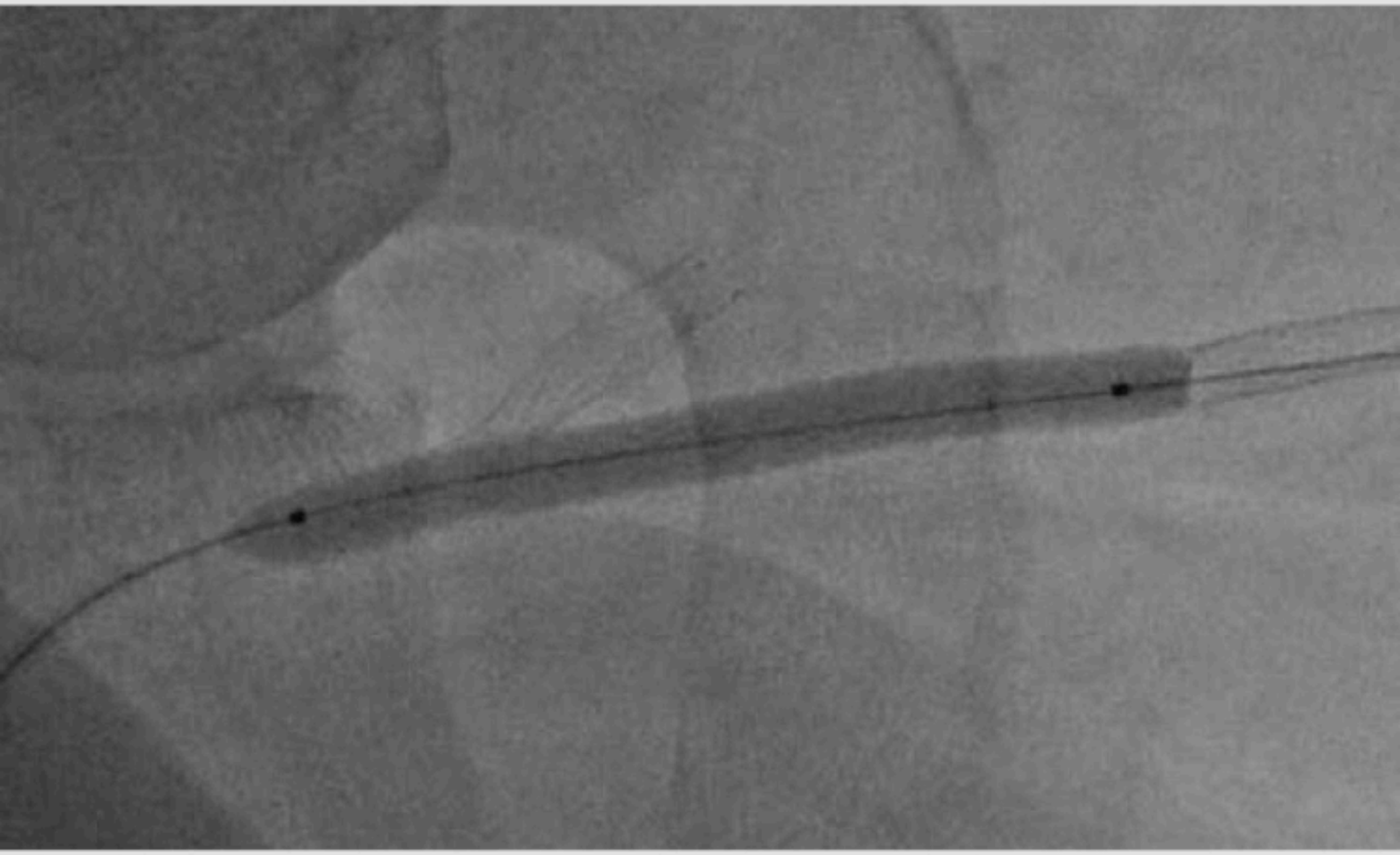
STEP 5

- Distal LPA subintimal angioplasty

STEP 6

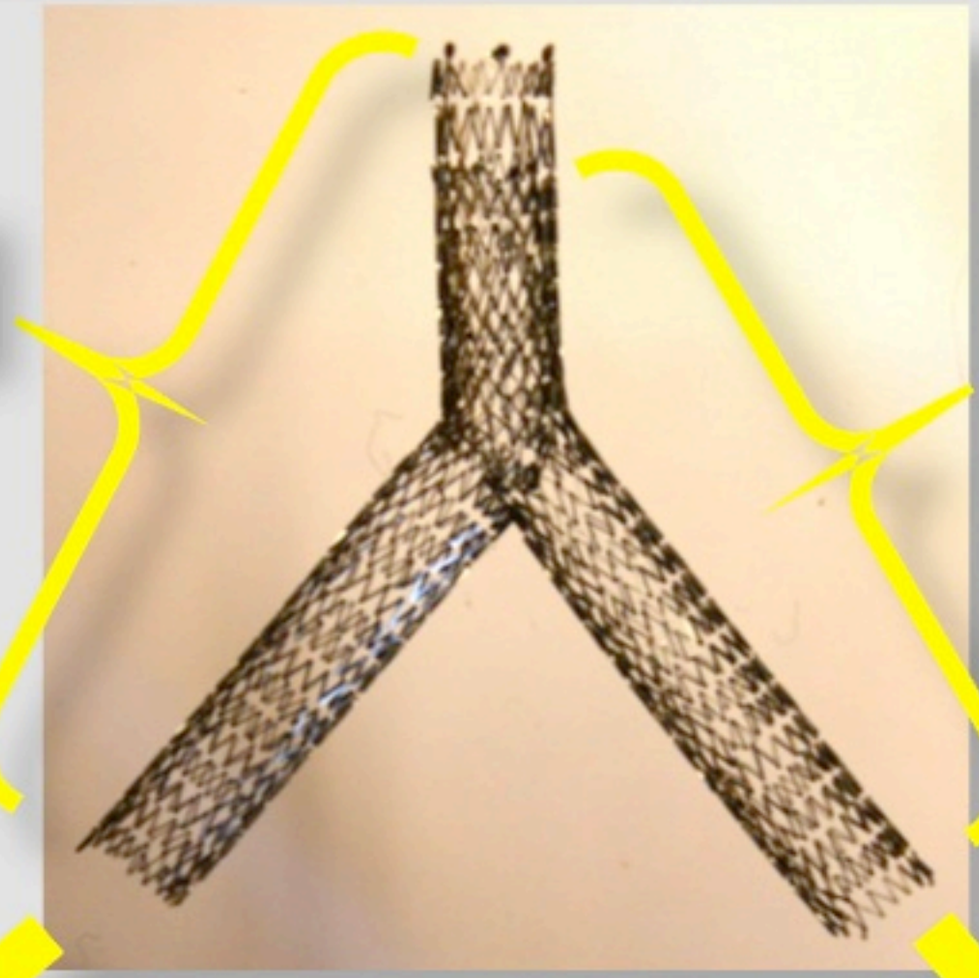
- **How to treat CFA biforcation?**

1. Kissing balloon?
2. Balloon-expandable stent?
3. Self-expandible stent?

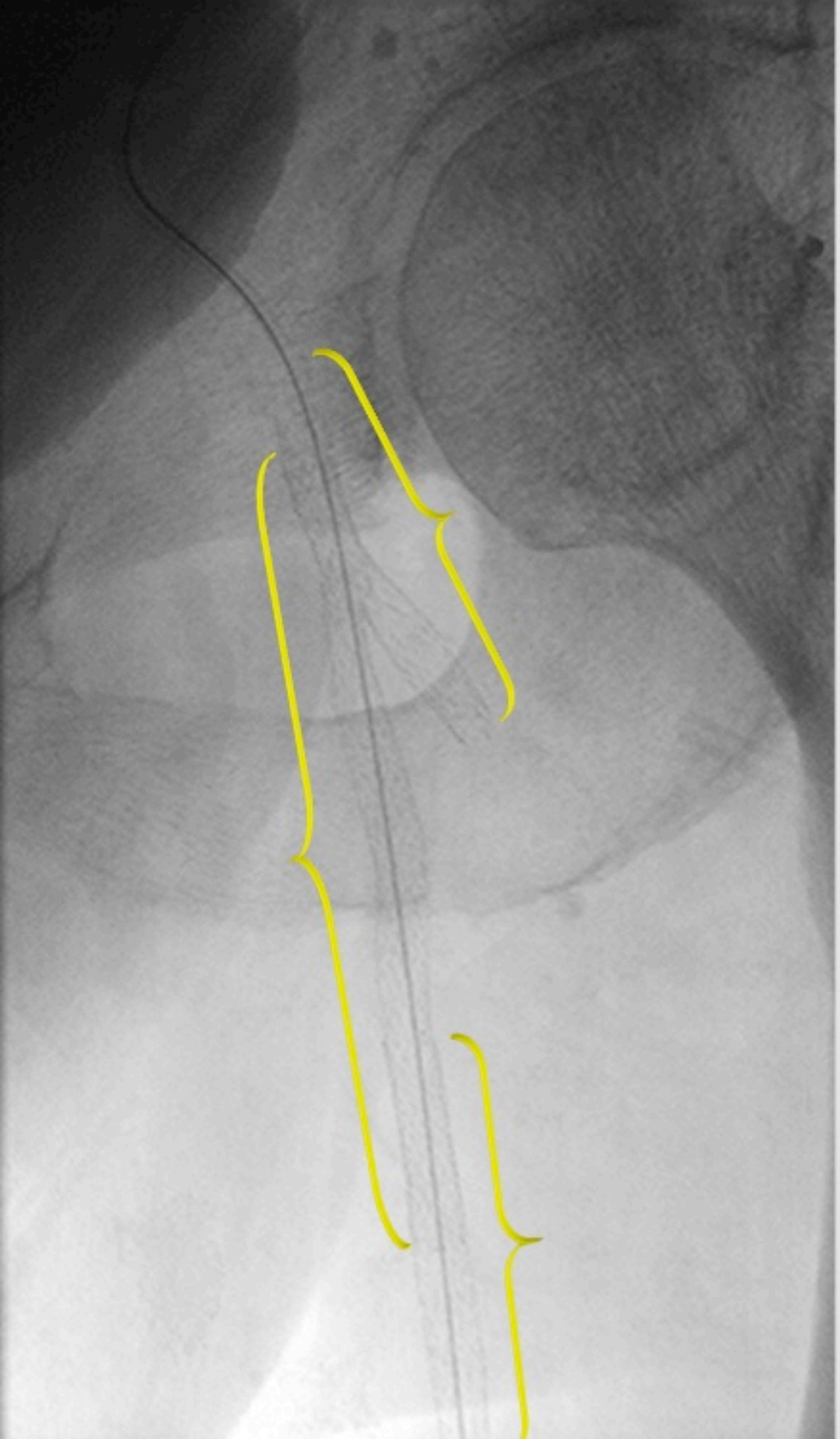


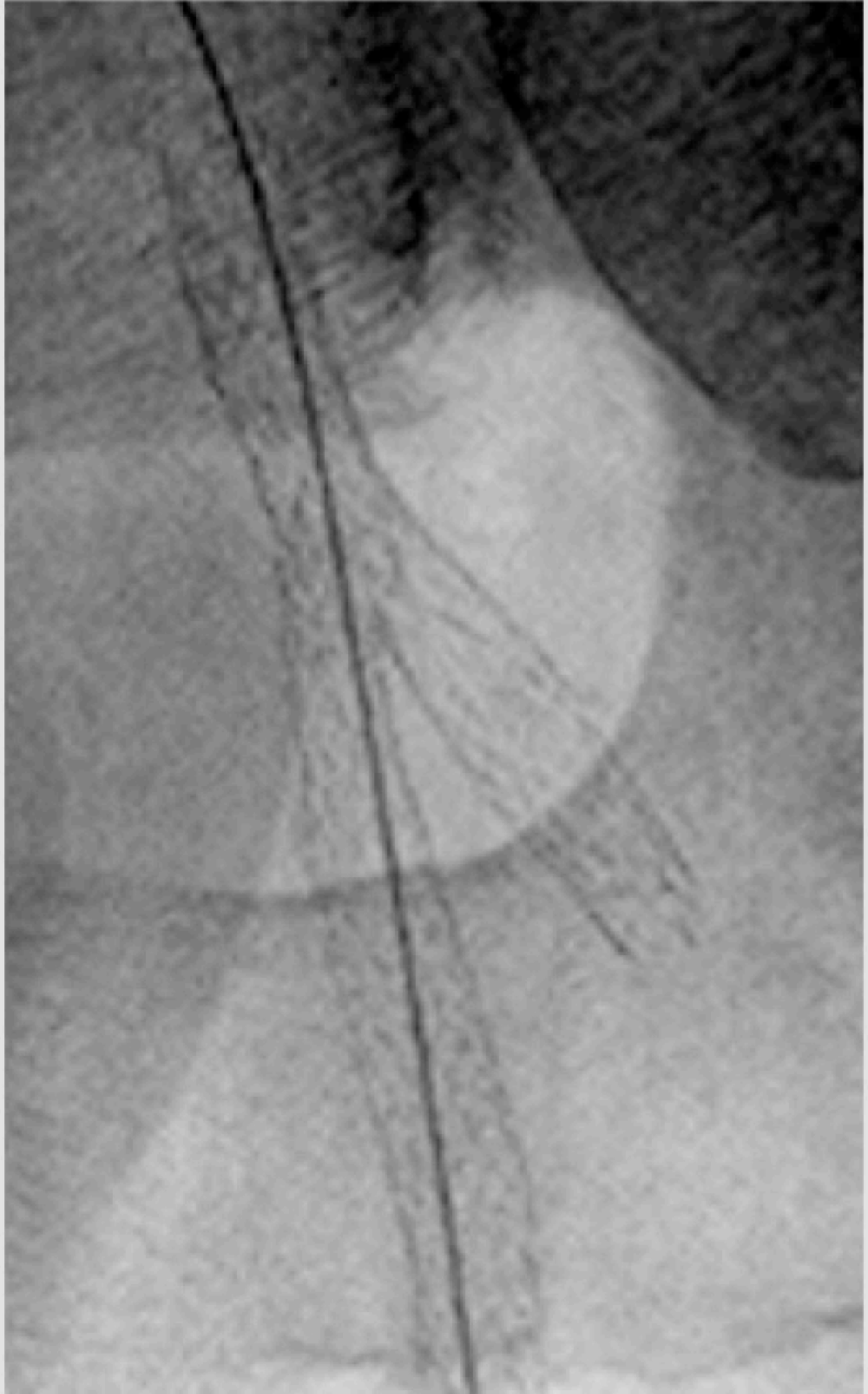
“Coulotte” technique nitinol stents (3 bridges/ring)

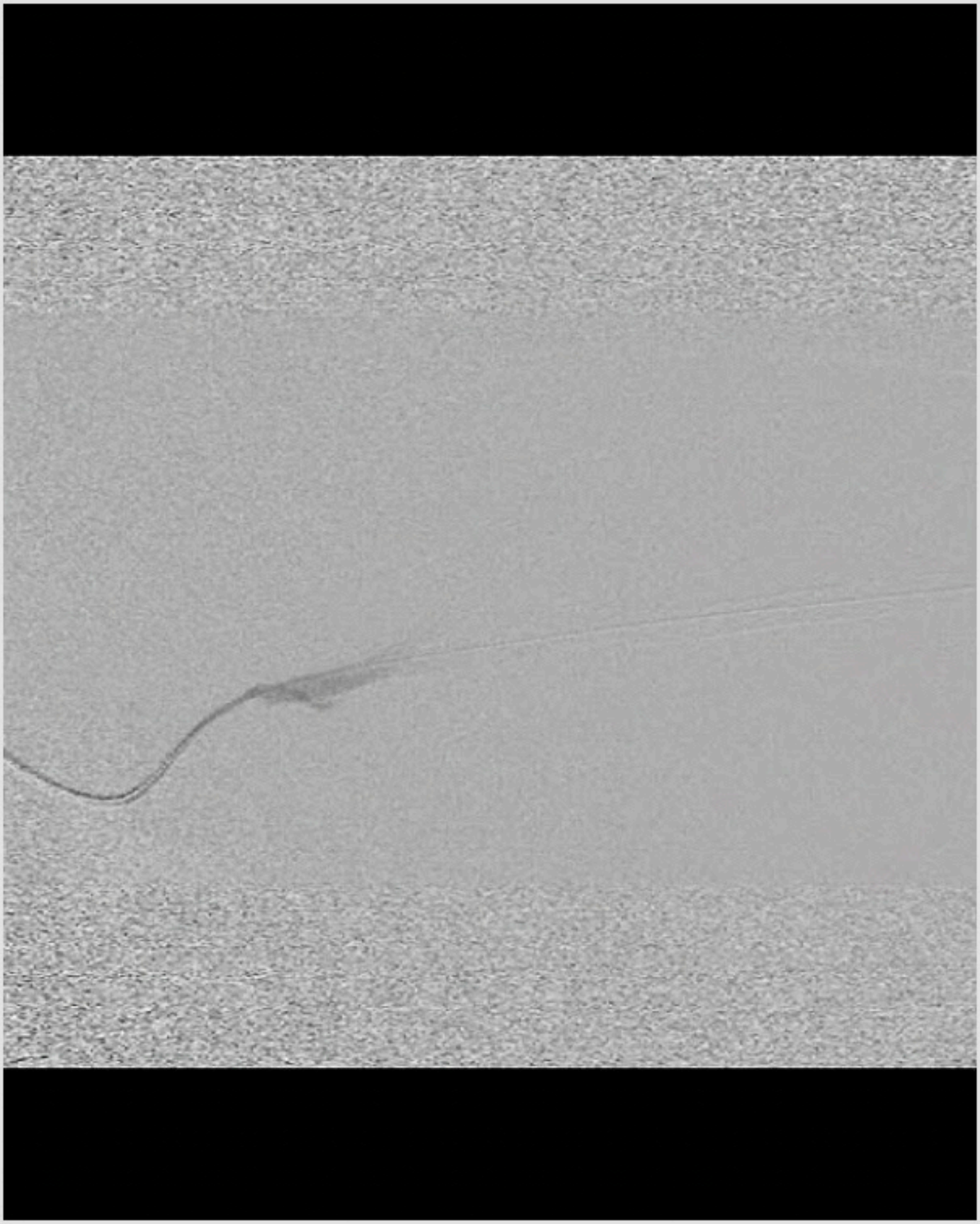
1° stent

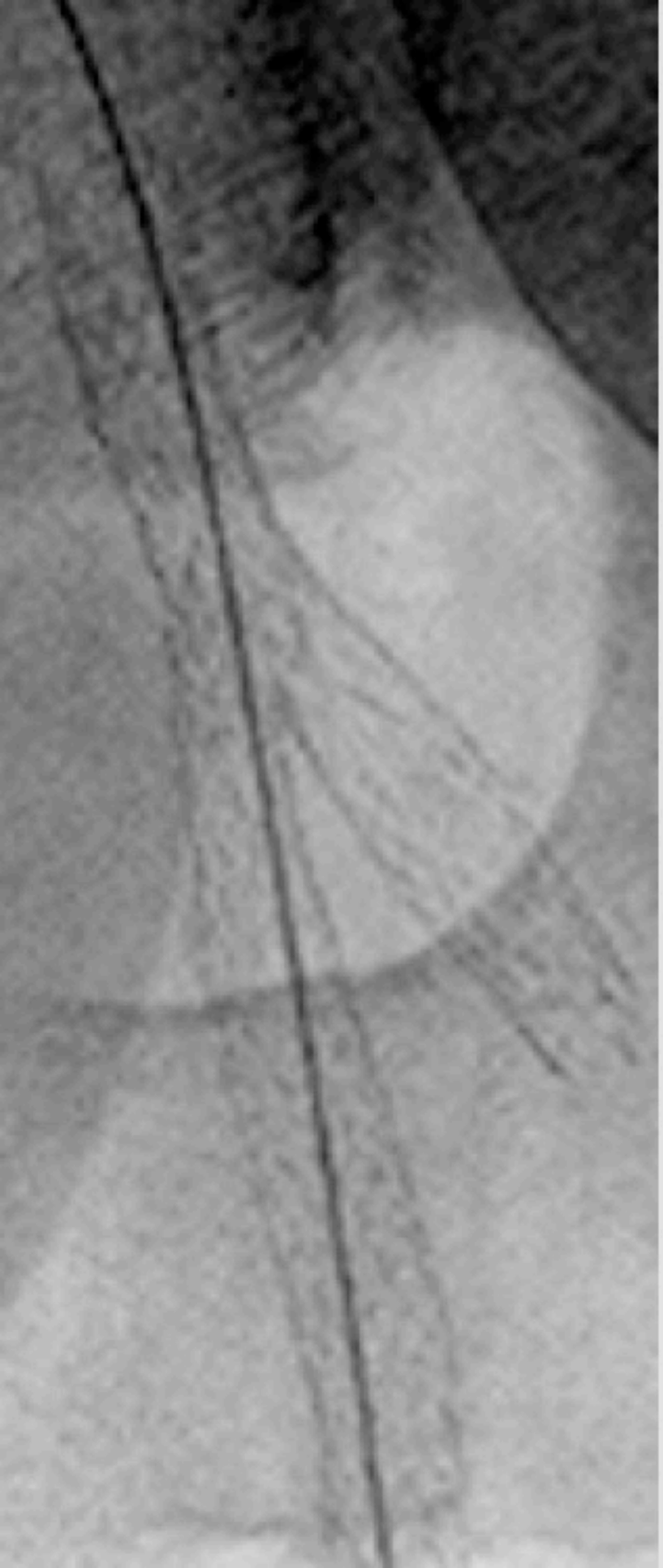
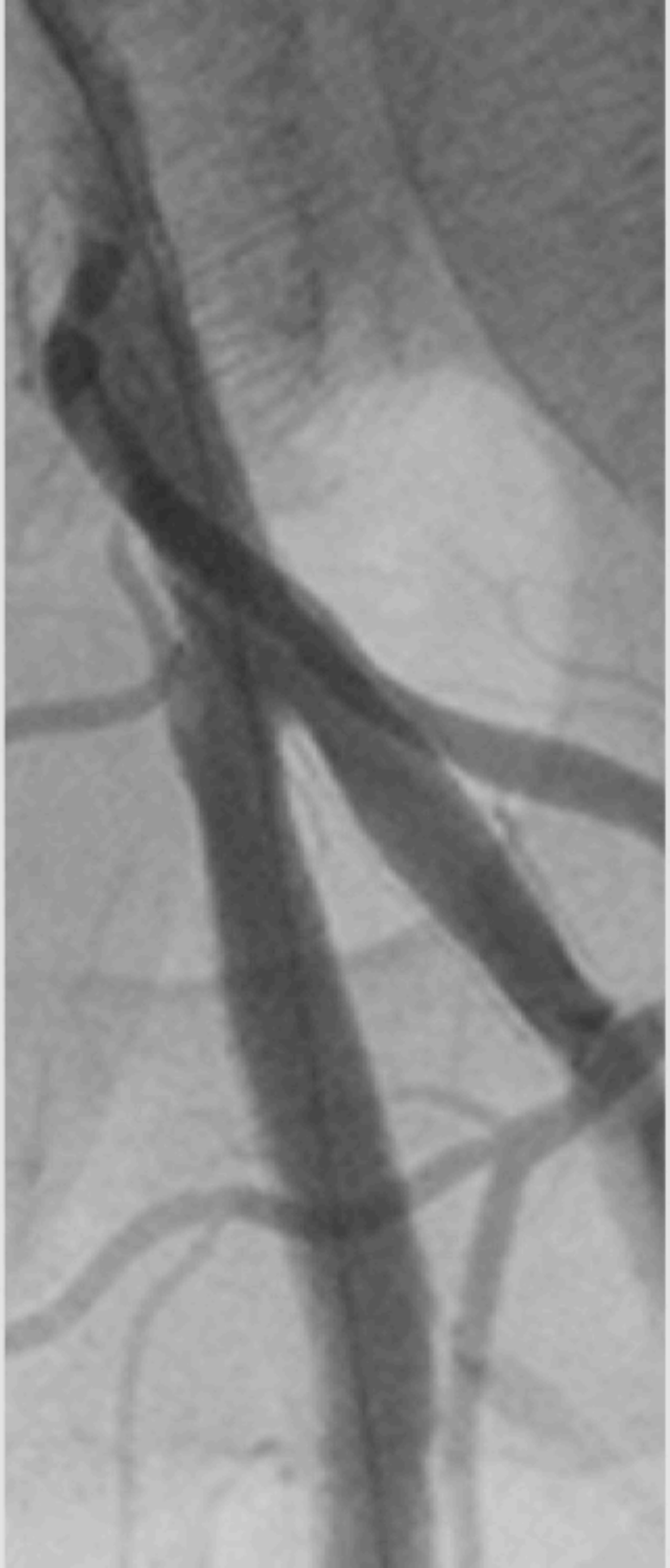


2° stent





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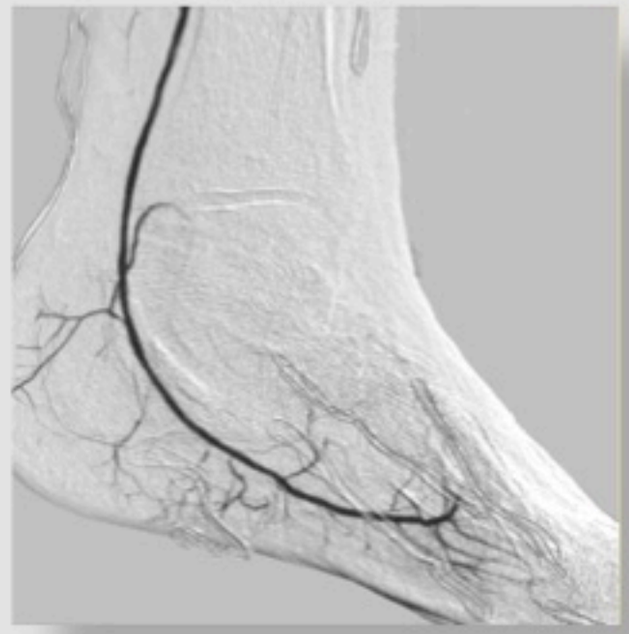
Surgical options considering "good blood supply to the plantar flap"

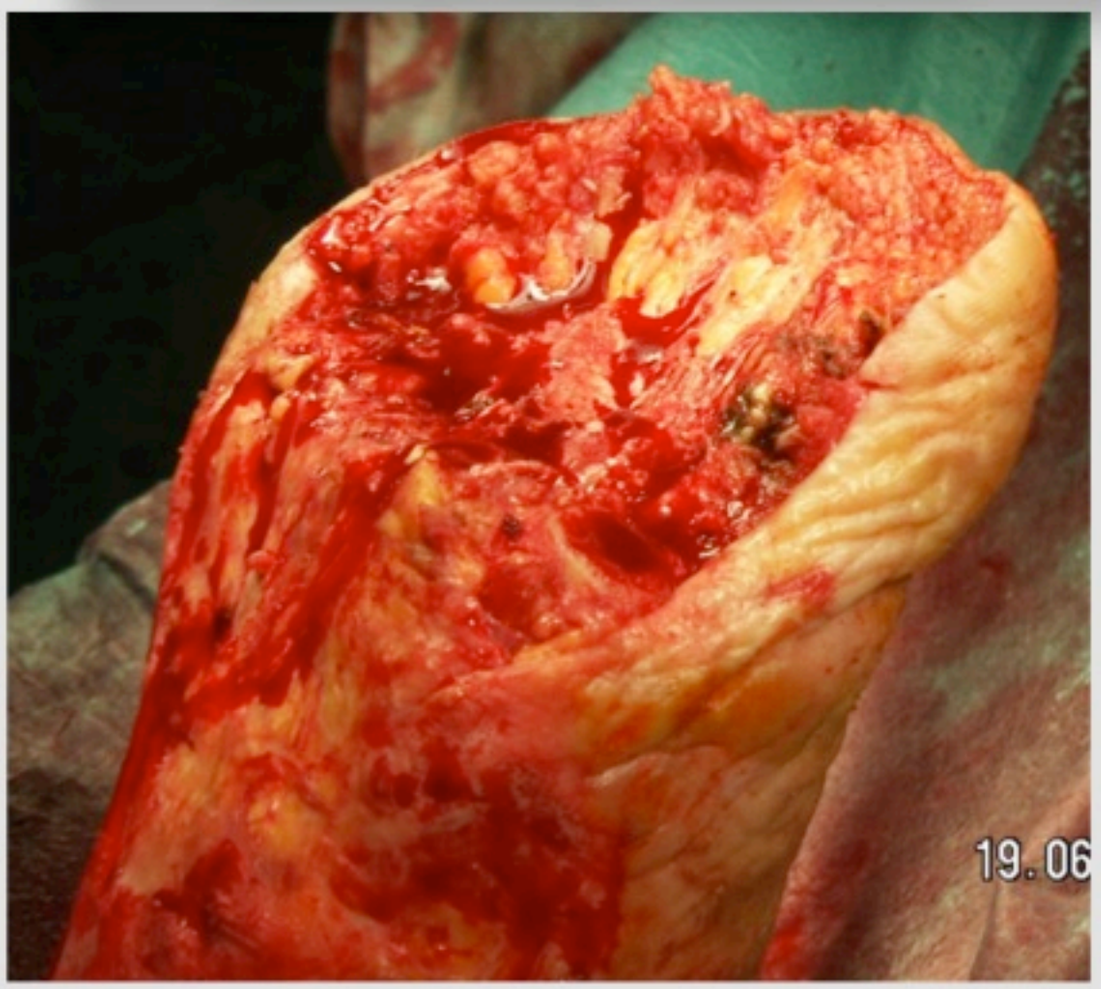
- Goal: to obtain a long and functional stump
- Perform a "proximal" transmetatarsal amputation
- Cover residual dorsal ulcer with Hyaf-Based Bioinductive Dermal Substitute

Direct blood perfusion to the plantar flap

Transmetatarsal amputation



Metarsal bones



Plantar Flap

Dermal Substitute

Skingraft