Venous Anastomosis Stenosis: POBA, DCB, Stent, Stent Graft, Revise?

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Disclosures

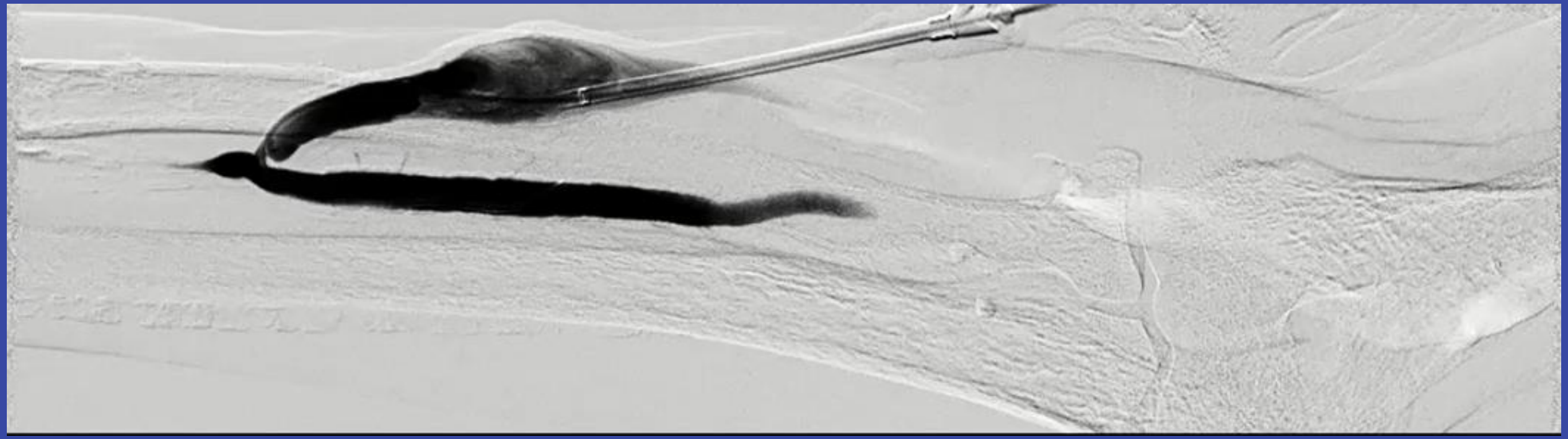
- Consultant for BD and Merit Medical

Case 1

- 53 yo
- 3.5 yo proximalized radiocephalic fistula
- Angiogram with +/- dilatation to right arm AV fistula. Critically low transonic flows

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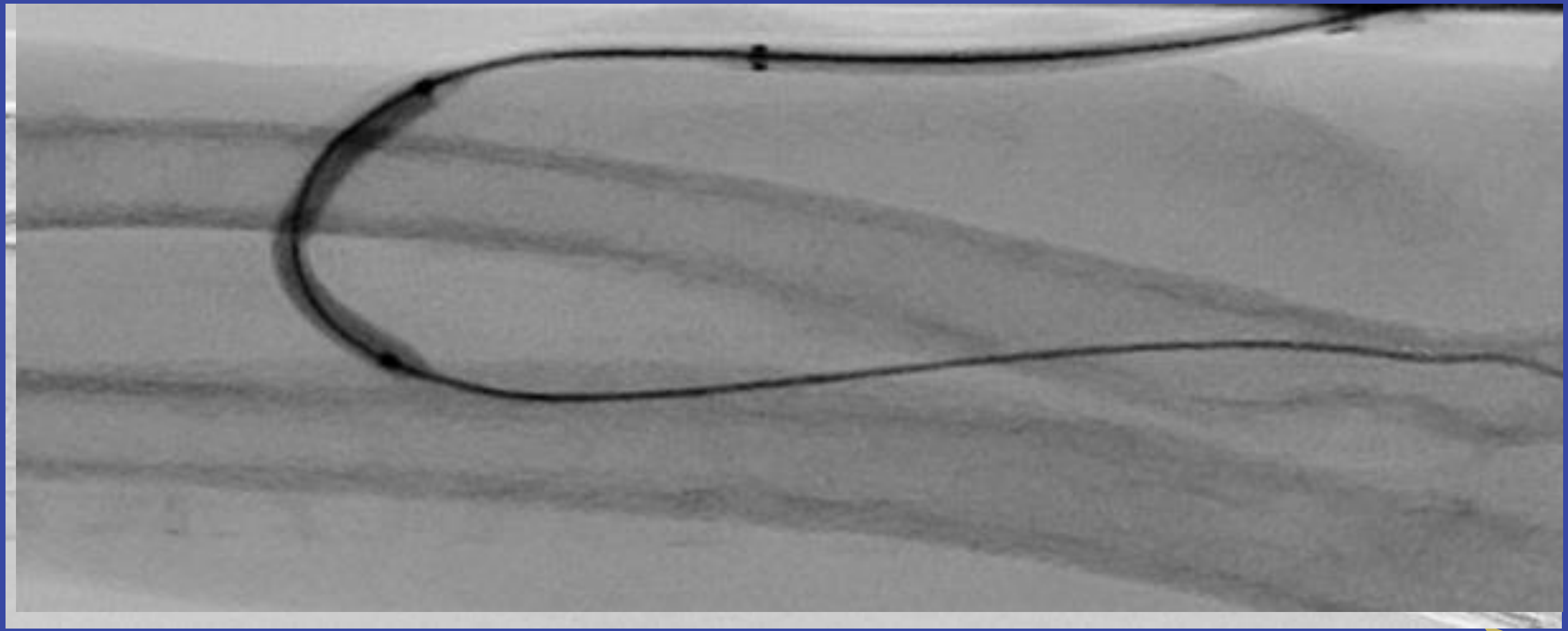


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What now?

- surgical revision?
- PTA?
- Anything else?

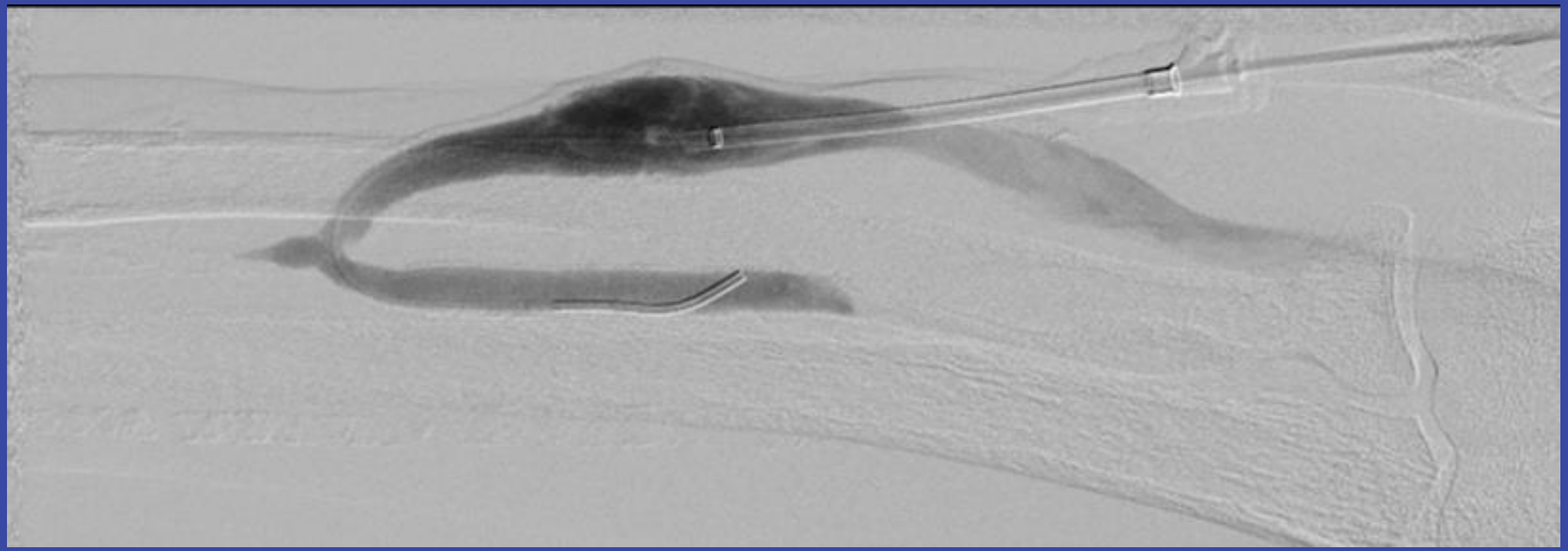


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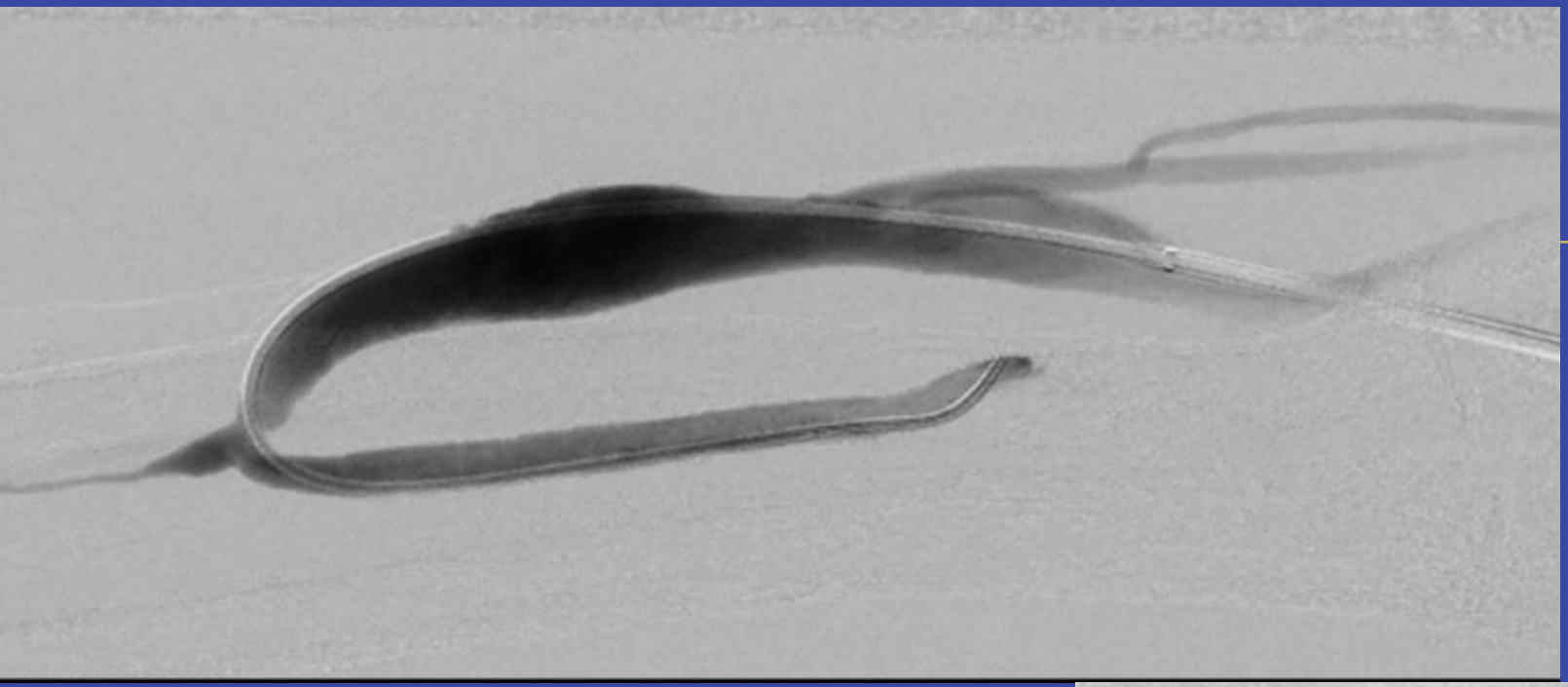


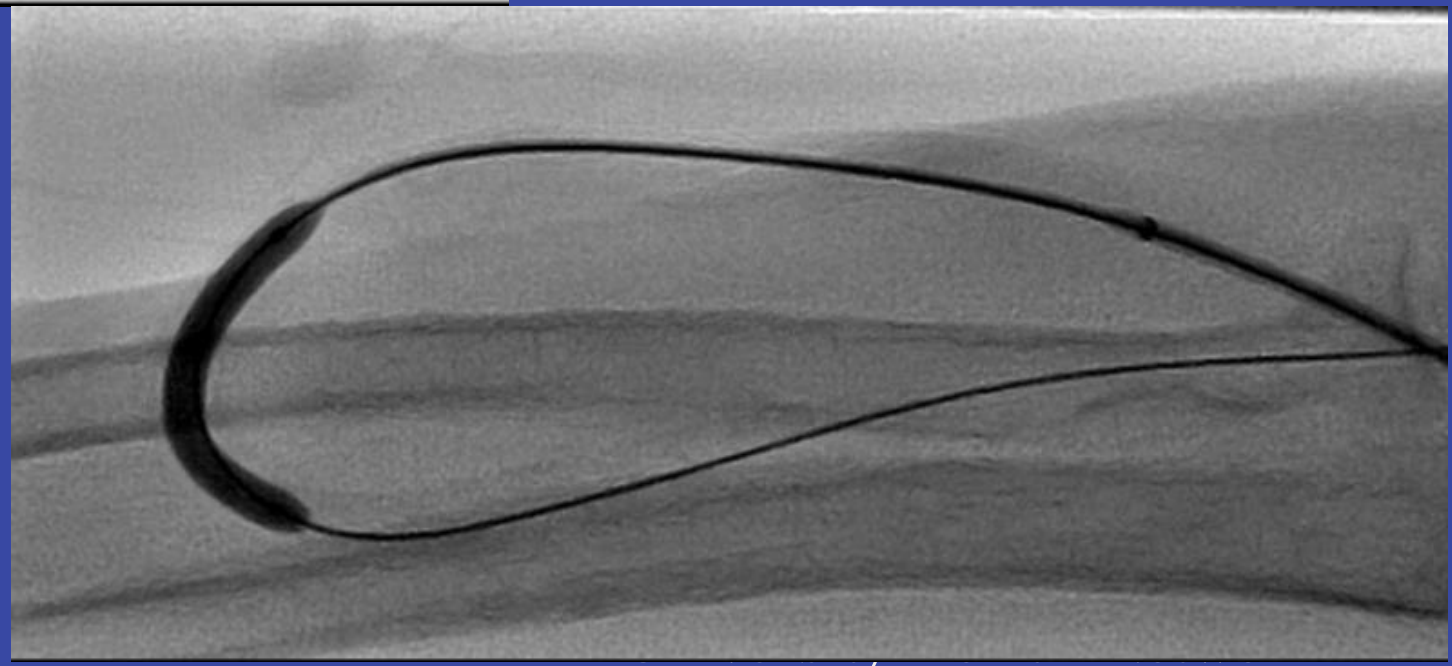


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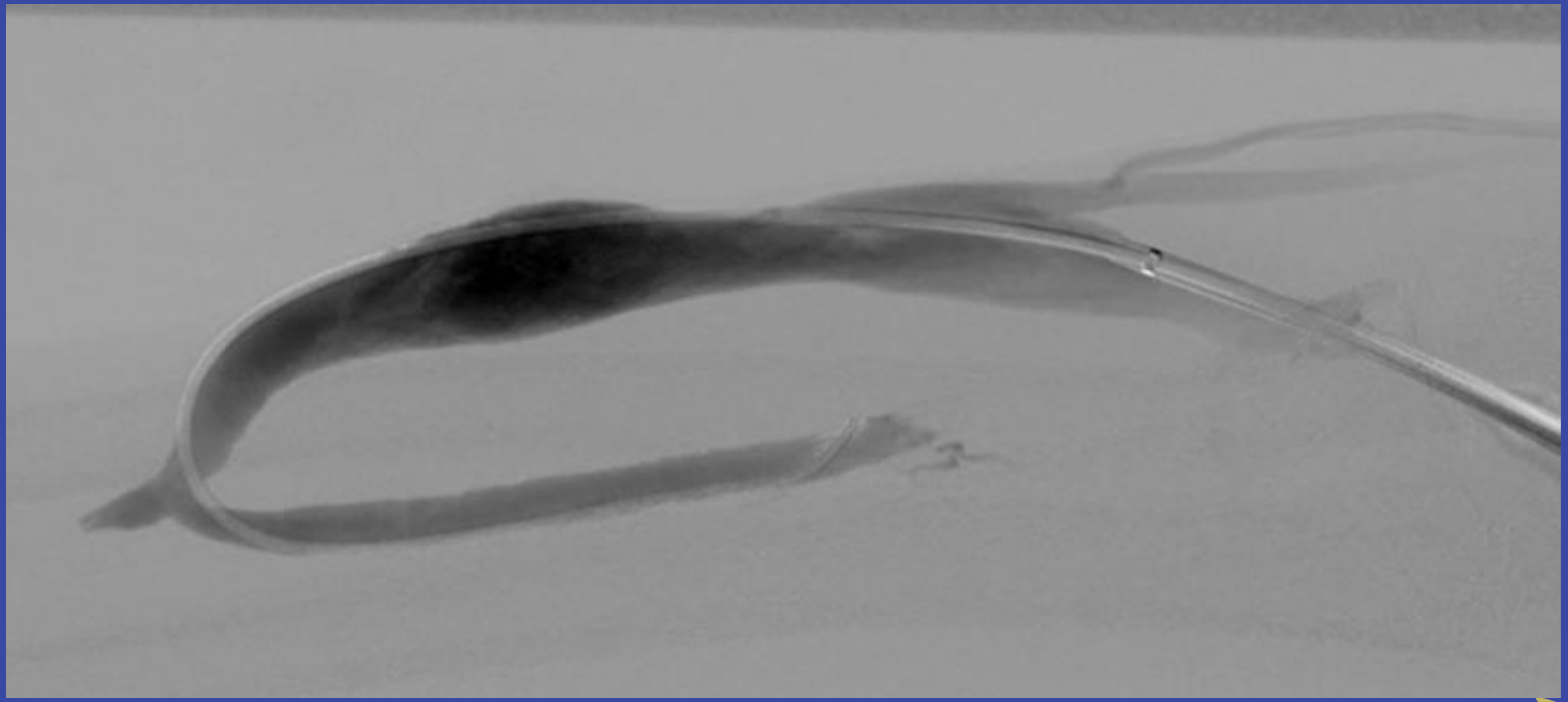
- Comes back 2 months later
- please do angio/angioplasty to right arm fistula to r/o stenosis. weaken thrill and bruit noted. Patient also has very low transonic flows
- What next?





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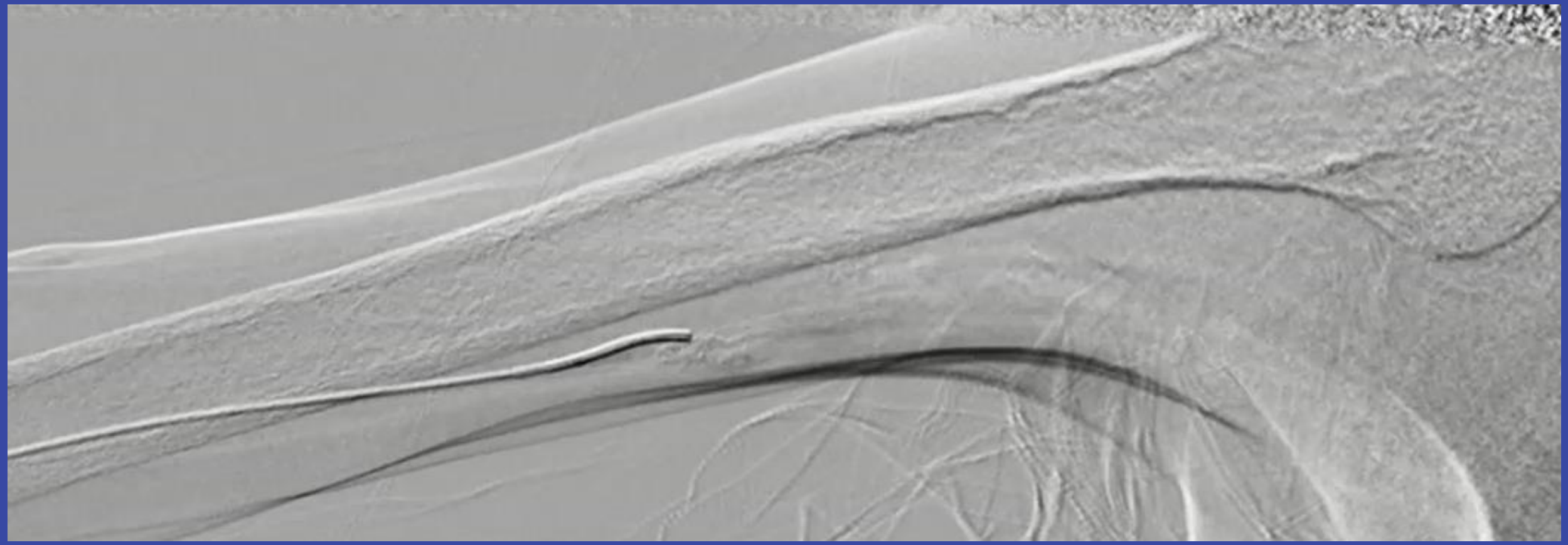


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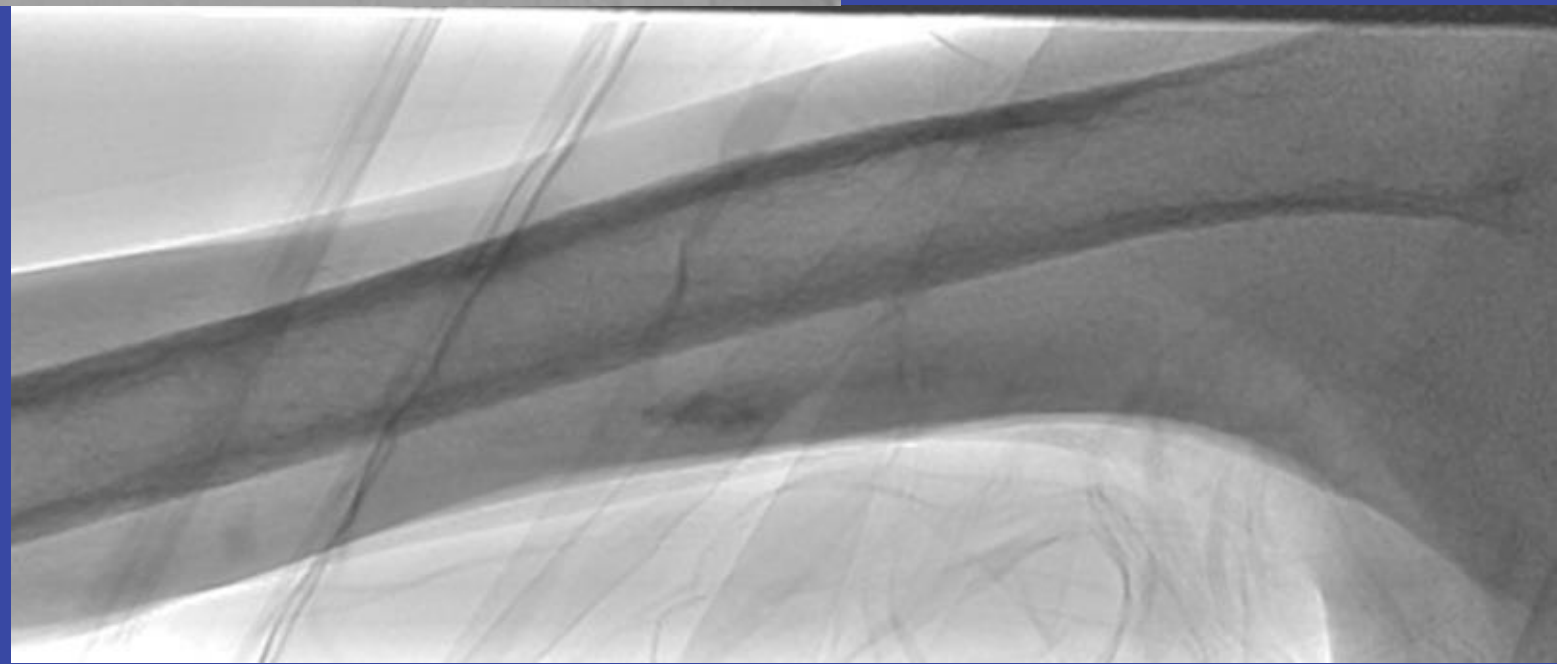




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Three months later

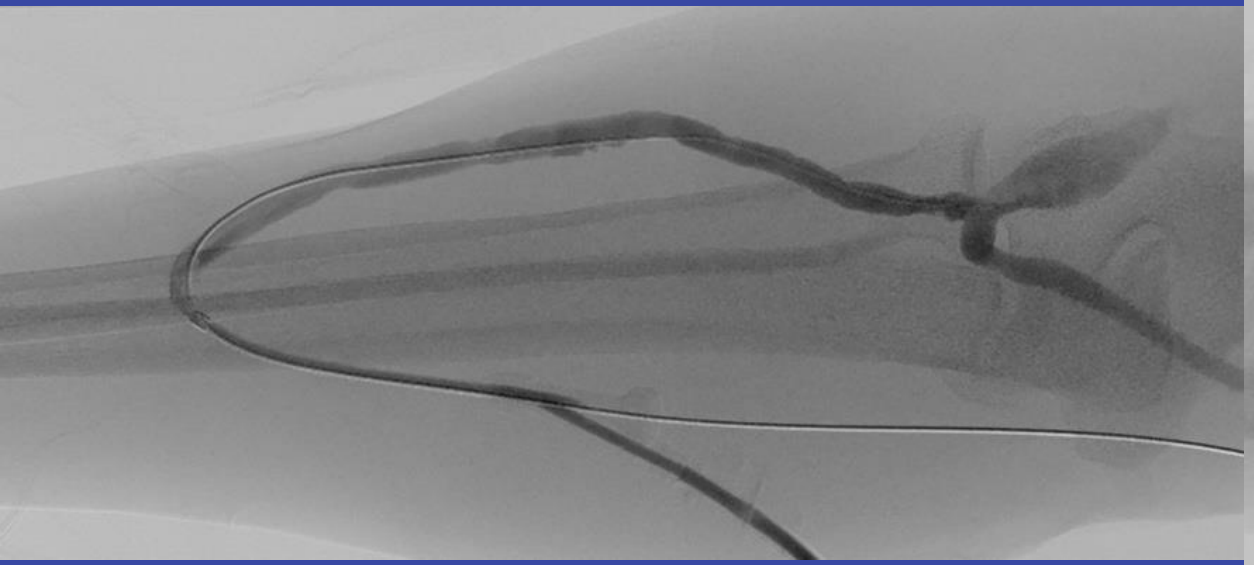


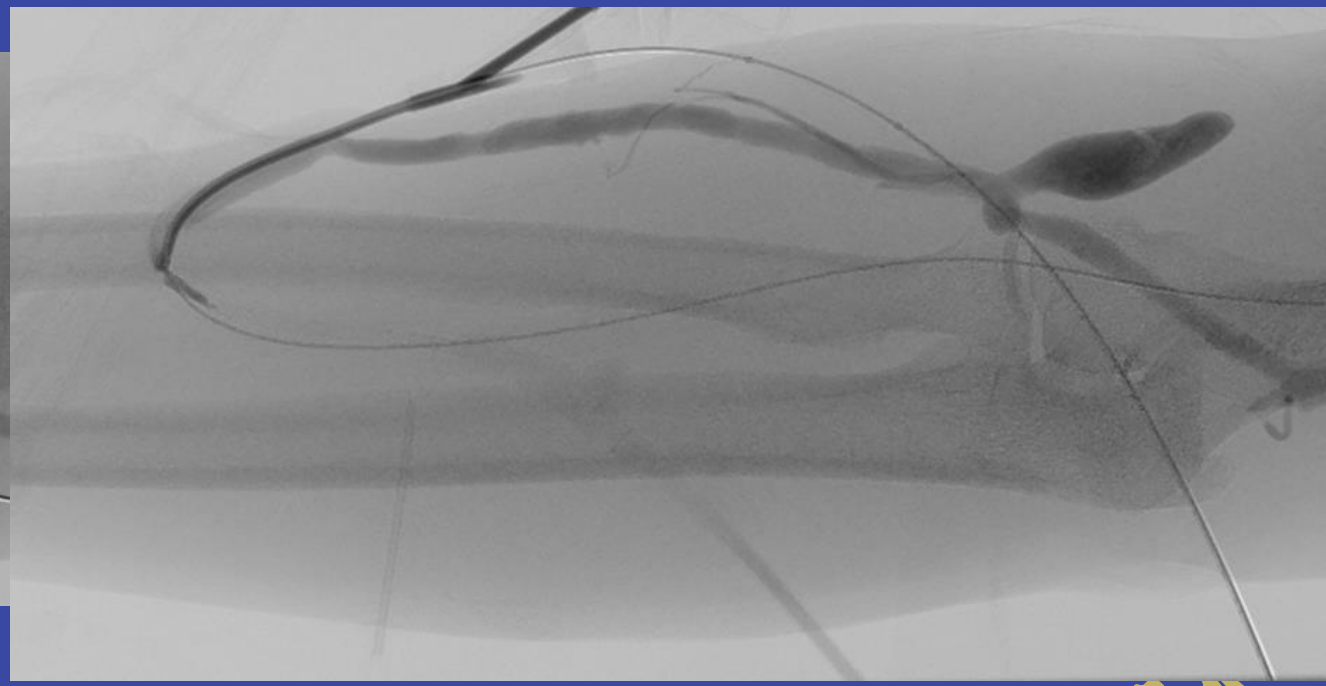
Case 2

- 62yo
- Hypertension and gout
- Right arm loop graft placed in Oct 2016

Presents with de novo venous anastomotic stenosis

- July 2017 (10 months later)





6 mm PTA

Angioplasty

15.5 KDOQI considers it reasonable to use balloon angioplasty (with high pressure as needed) as primary treatment of AVF and AVG stenotic lesions that are both clinically and angiographically significant. *(Expert Opinion)*

Note: Angiographically present stenosis without accompanying clinical signs and symptoms is inadequate to treat/intervene upon.

15.6 There is inadequate evidence for KDOQI to make a recommendation regarding the use of specialized balloons (drug-coated or cutting) versus standard high-pressure balloons in the primary treatment of AVF and AVG stenosis.

15.7 There is inadequate evidence for KDOQI to make a recommendation regarding the optimal duration of balloon inflation time during angioplasty to improve intervention primary patency in the treatment of AVF or AVG stenosis.

15.8 KDOQI considers it reasonable that a careful patient-individualized approach to the choice of balloon type for angioplasty of clinically significant AVF and AVG stenosis be based on the operator's best clinical judgment and expertise. *(Expert Opinion)*

Stents

15.9 KDOQI suggests the appropriate use of self-expanding stent-grafts in preference to angioplasty alone to treat clinically significant graft-vein anastomotic stenosis in AVG when the goal is overall better 6-month postintervention outcomes after carefully considering the patient's ESKD Life-Plan. *(Conditional Recommendation, Moderate Quality of Evidence)*

Note: Appropriate use avoids cannulation segments.

Note: Overall better 6-month outcomes refer to reduced recurrent AVG restenosis ± improved patency.

15.10 KDOQI considers it reasonable to *first consider the consequences of placement of a stent-graft on future AV access options* according to the patient's ESKD Life-Plan, with consultation with the vascular access team if necessary, prior to its placement. *(Expert Opinion)*

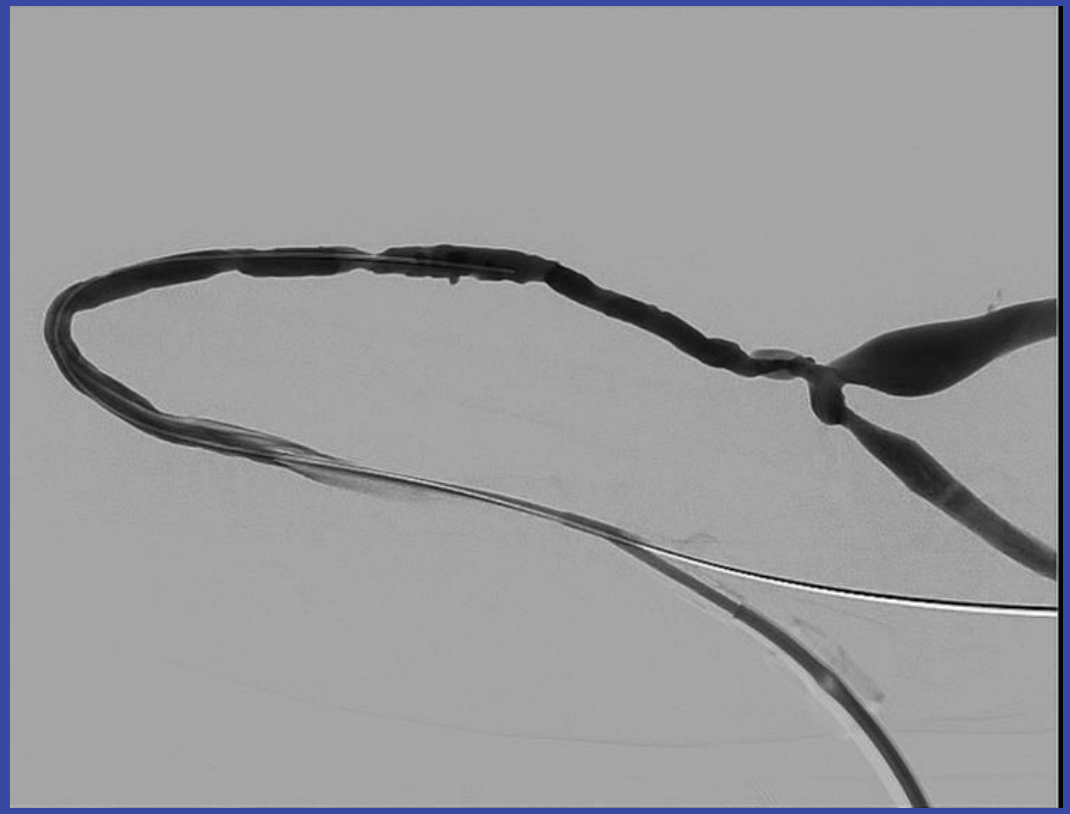
15.11 KDOQI suggests that the use of an appropriately placed stent-graft is preferred to angioplasty alone for the treatment of in-stent restenosis in AVG and AVF for overall better 6-month postintervention outcomes. *(Conditional Recommendation, Moderate Quality of Evidence)*

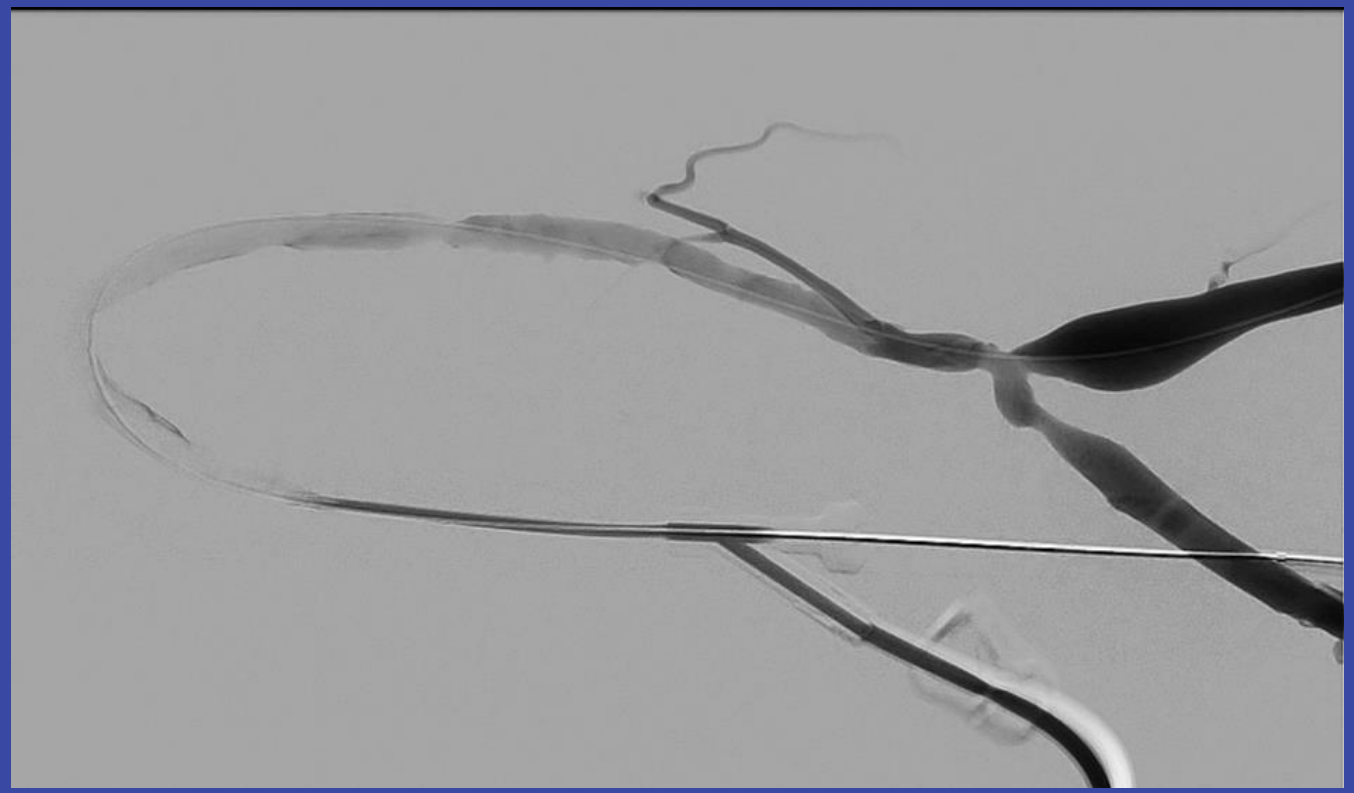
Note: Appropriate use avoids cannulation segments.

Note: Overall better 6-month outcomes refer to reduced recurrent AVG and AVF restenosis ± improved patency.

15.12 KDOQI considers it reasonable to avoid the use of bare metal stents for the treatment of clinically and/or angiographically significant AVG and AVF stenotic lesions. *(Expert Opinion)*

Five Months Later





7mm PTA

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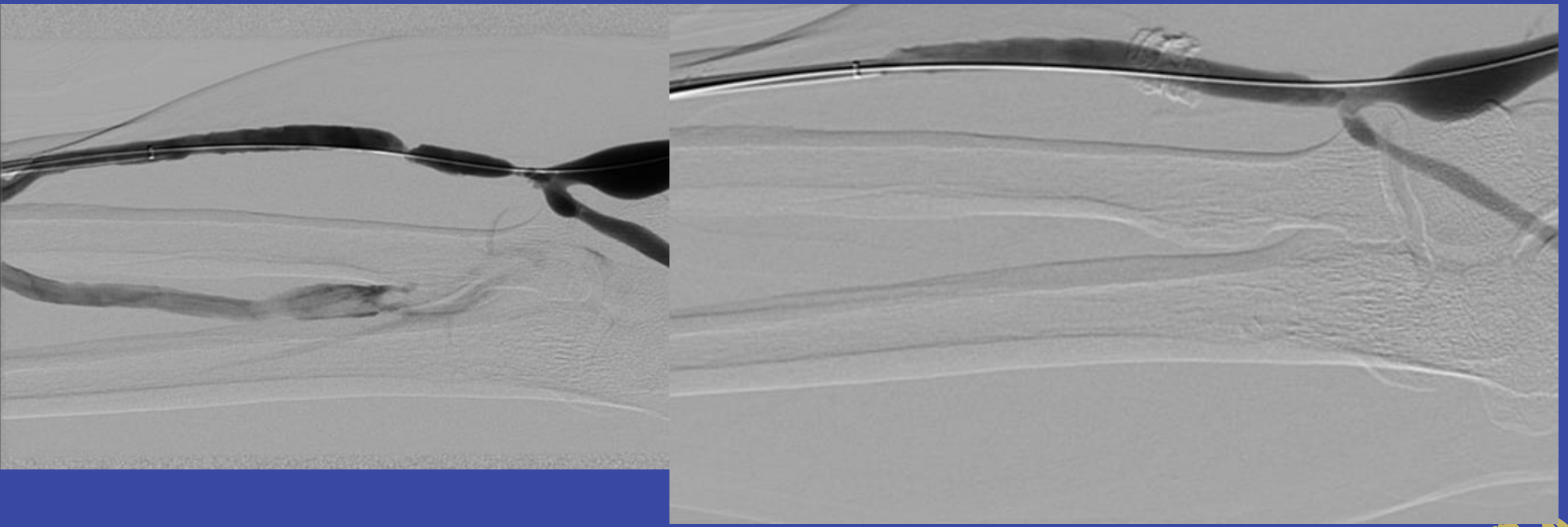
One Month Later (Dec 2018)

- Presents thrombosed
- What now?
- We declotted him

To jump ahead

- PTA 7/2018 7mm
- Decot 11/2018 8mm PTA
- PTA 3/2019 8mm
- PTA 7/2019 8mm
- Declot 2 weeks later
- What now?

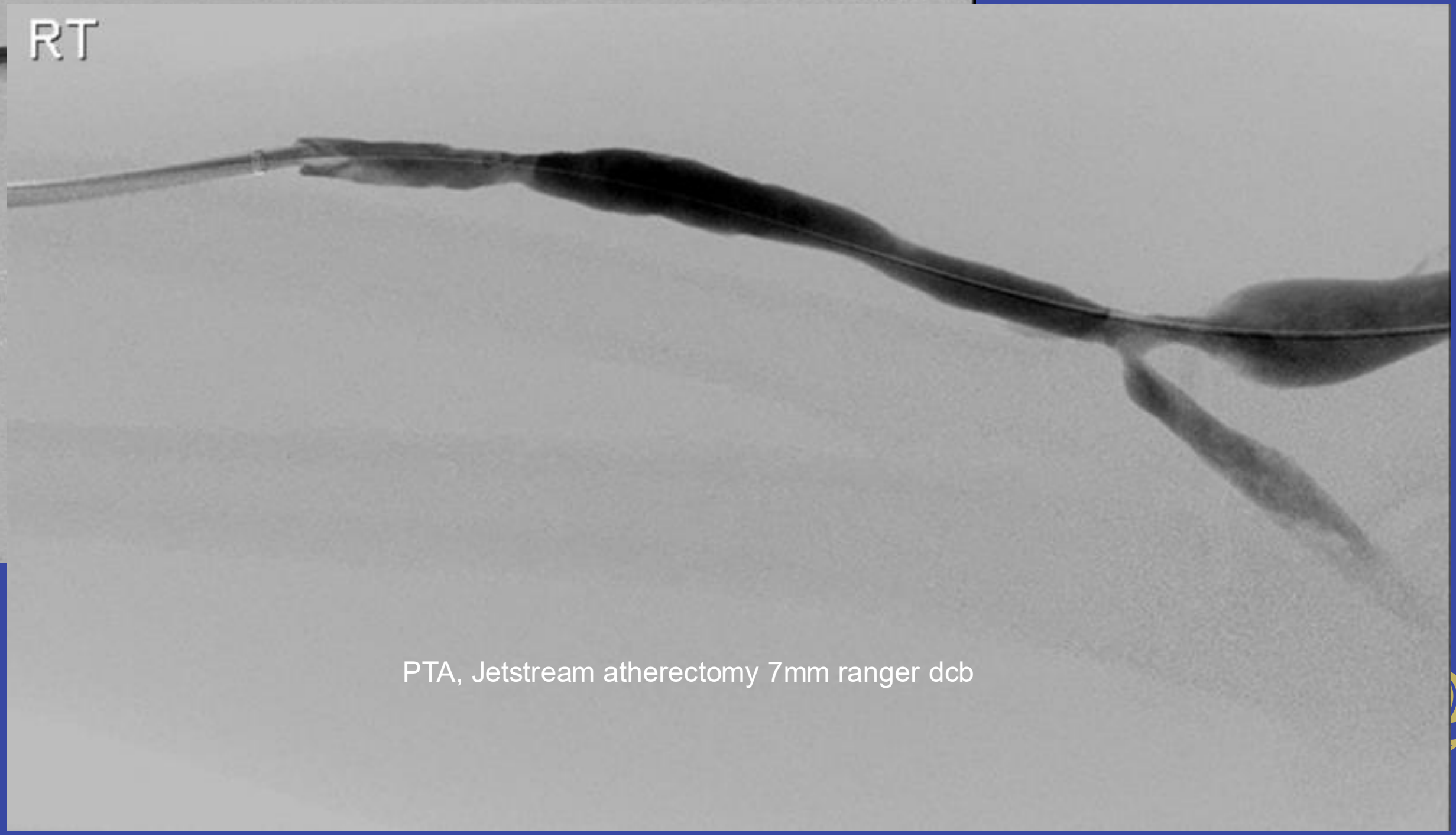
Four months after last declot (Dec 2019)



8mm Conquest PTA

Continued

- PTA 7/2020 Conquest PTA
- Declot 10/2020
- Now presents again 4 months later – high recirculation

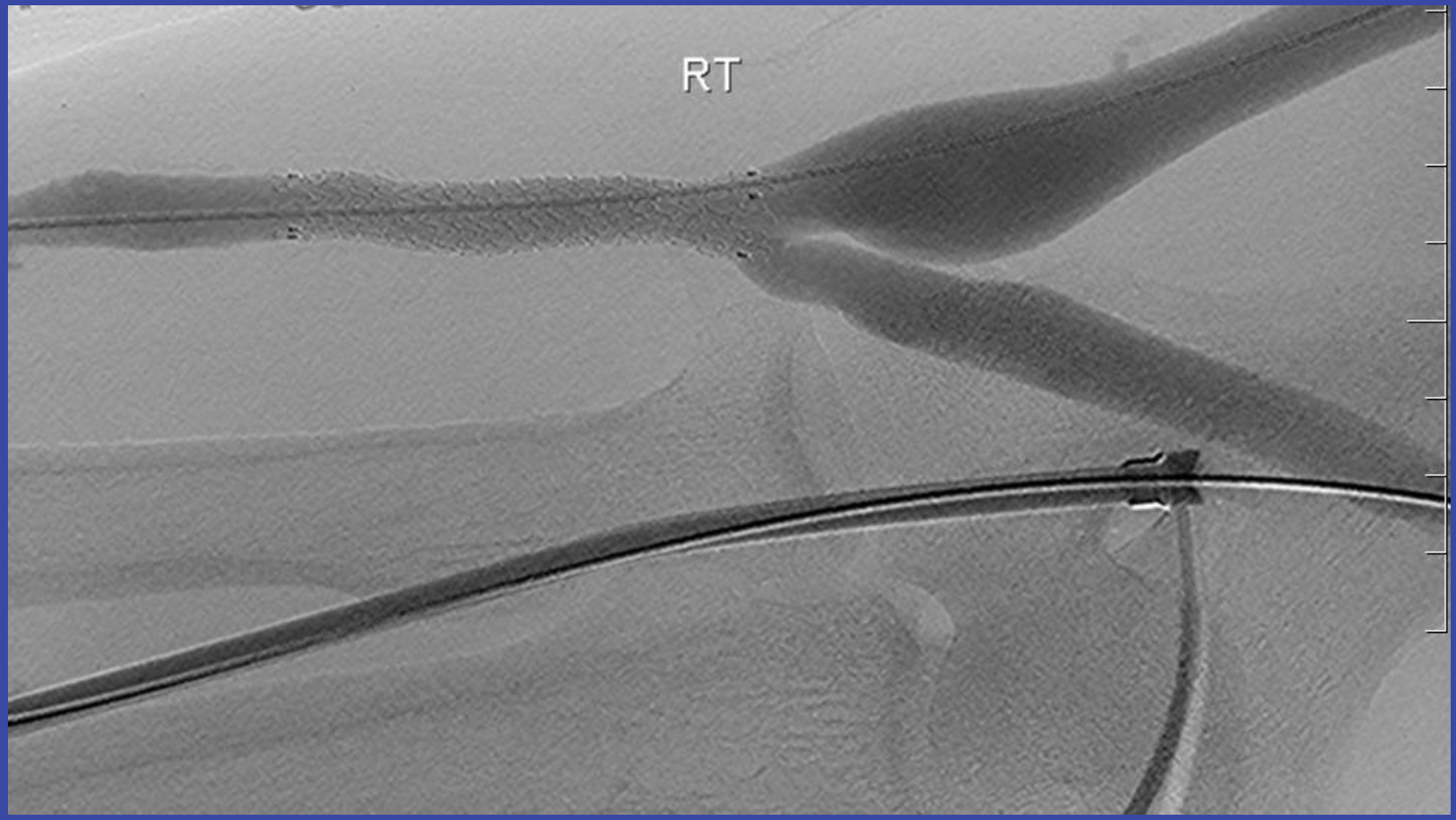


PTA, Jetstream atherectomy 7mm ranger dcb

Presents clotting 3 weeks later (3/21)

- What now?
- Declot 3/2021
- Declot 5/2021
- PTA 9/2021 7mm
- PTA 2/2022 7mm
- Now presenting a year later with low flows

One year later



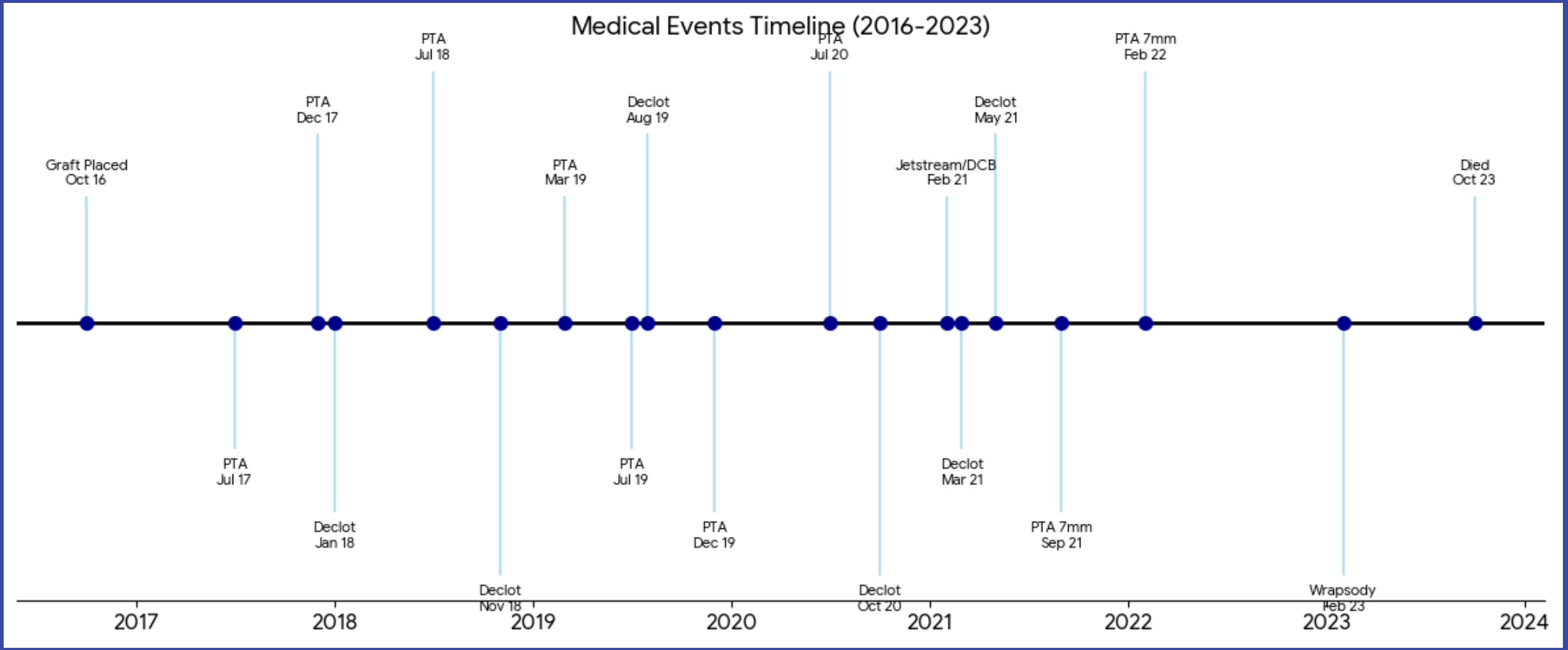
How long did it last?

- 7 months later died of gastric Ca
- ? Radiation induced

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Timeline



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A ≥ 75% agreement with 0% disagreement

B ≥ 75% agreement with <10% disagreement

C ≥ 75% agreement with ≥10% disagreement

Anatomical Location	Primary stenting recommended over stenting after suboptimal PTA	PTA (HPB / DCB) then stent graft (restenosis <3 months or evidence of significant recoil)	Repeat PTA (HPB / DCB) then stent graft if >3 interventions in <12months	Experts Agreeing	Experts Neutral	Experts Disagreeing	Consensus Grade
Graft Venous Anastomosis	Yes *FLAIR Trial*[6]			11 (92%)	0 (0%)	1 (8%)	B
Cephalic Arch	Yes *Consider if tortuous anatomy*	Yes *ESVS Guidelines*[4]		10 (83%)	0 (0%)	2 (17%)	C
Central Vein Stenosis		Yes *Consider if long stenosis >5cm or significant elastic recoil after PTA*	Yes *Suggested PTA not DCB. Must be aware of risk to branches with a stent graft ESVS Guidelines*[4]	12 (100%)	0 (0%)	0 (0%)	A
Swing Segment of Basilic Fistulas *(Transposed Vein into Deep Axillary Vein)*		Yes		11 (92%)	0 (0%)	1 (8%)	B
Fistula Rupture	Yes			10 (83%)	0 (0%)	2 (17%)	C
In-Stent Stenosis In Previously Placed Bare Metal Stents		Yes *RESCUE Study*[7]		12 (100%)	0 (0%)	0 (0%)	A
Cannulation Zone *(If Exhausted)*			Yes	11 (92%)	1 (8%)	0 (0%)	A

Case 3

- 47-year-old Jamaican gentleman with end-stage renal disease due to longstanding type 2 diabetes mellitus diagnosed in the 1990s, poorly controlled, longstanding hypertension with multiple presentations with hypertensive urgency and emergency

Access History

- January 2022 initiated dialysis with a right tunneled central venous catheter.
- Dec 2022 – catheter change for low flows
- January, April, September 2023
  - catheter change for exposed cuff
- Right snuffbox fistula created May 2023
  - Failed to mature

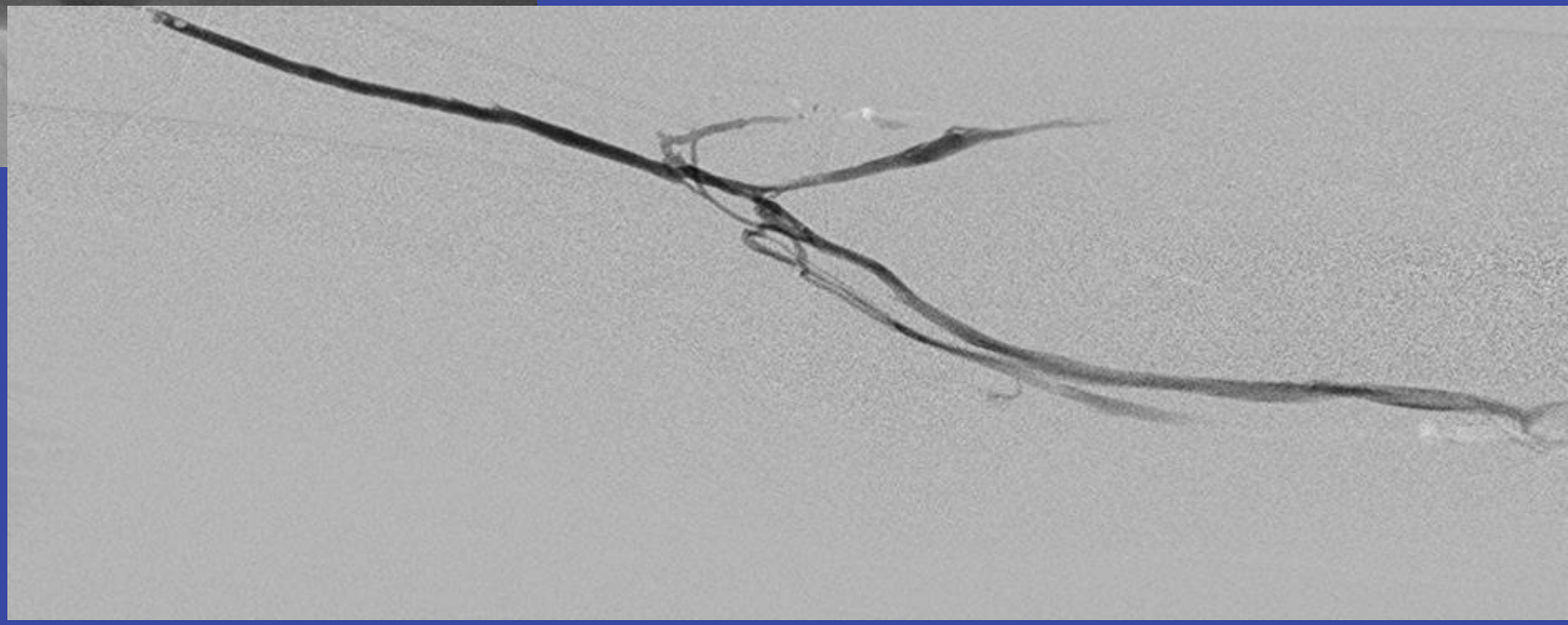
Continued…

- Patient has tattoos on both forearms and refuses any arm access that will cause scars
- Next steps?

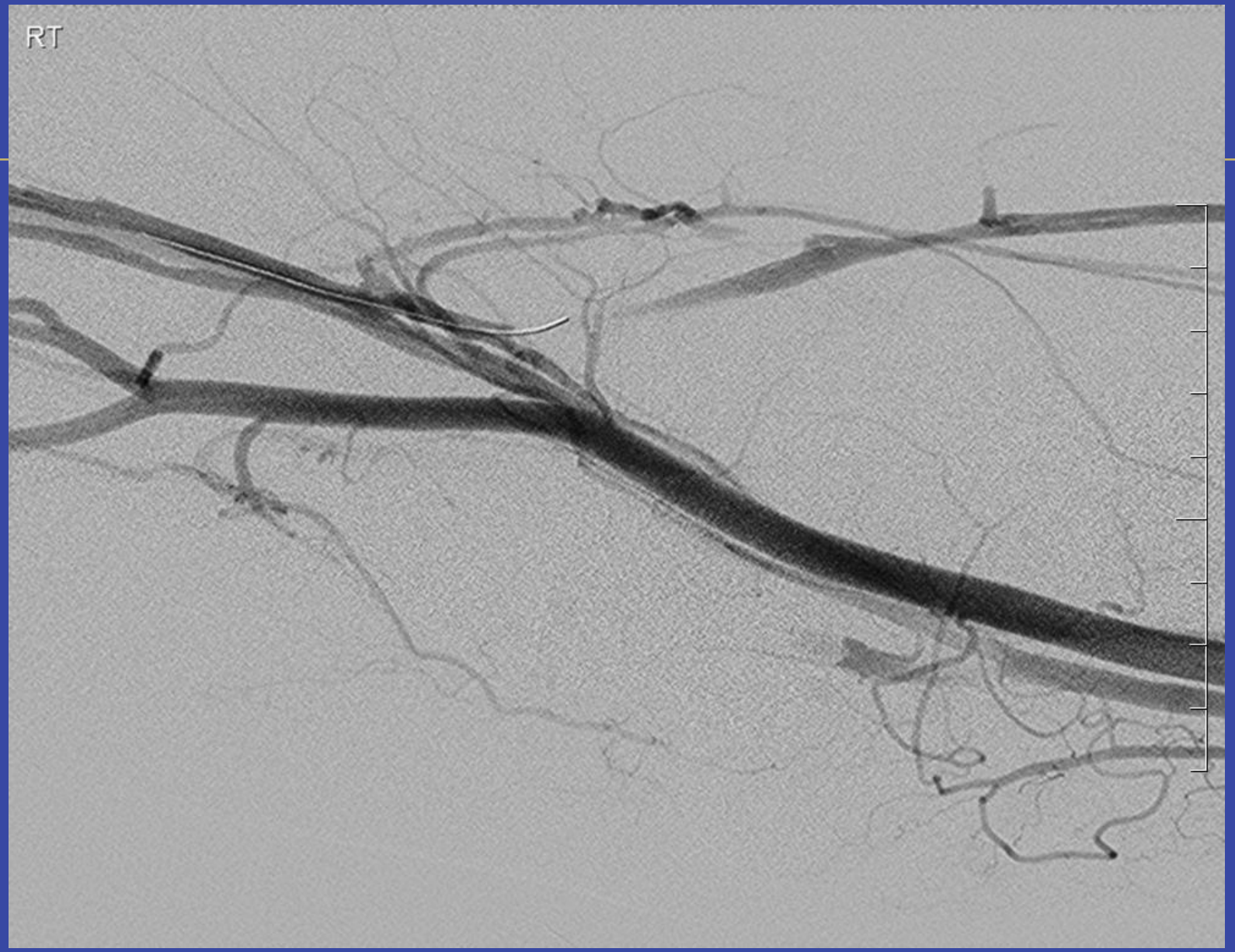
Continued Access History

- Attempted endoAVF



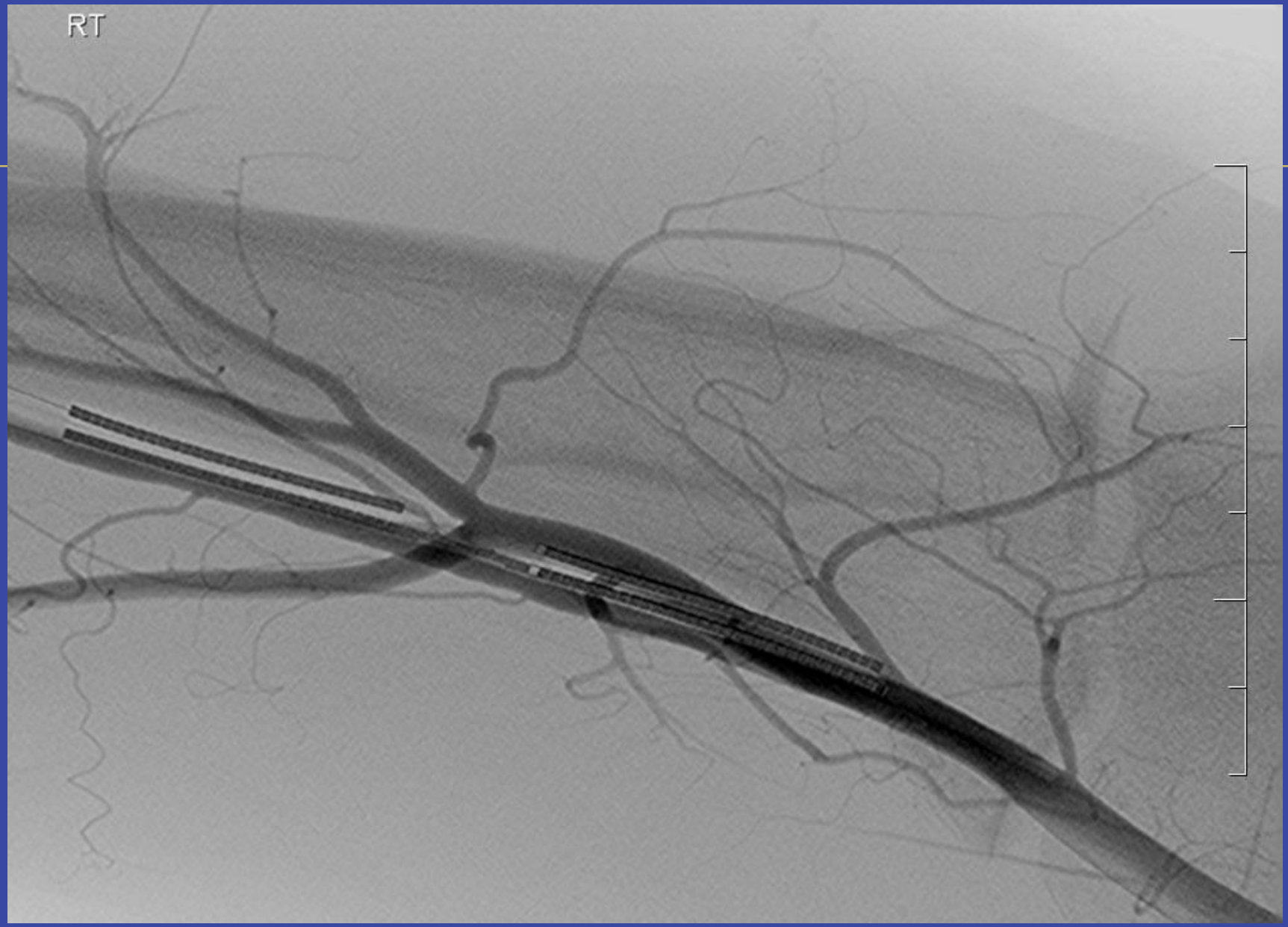


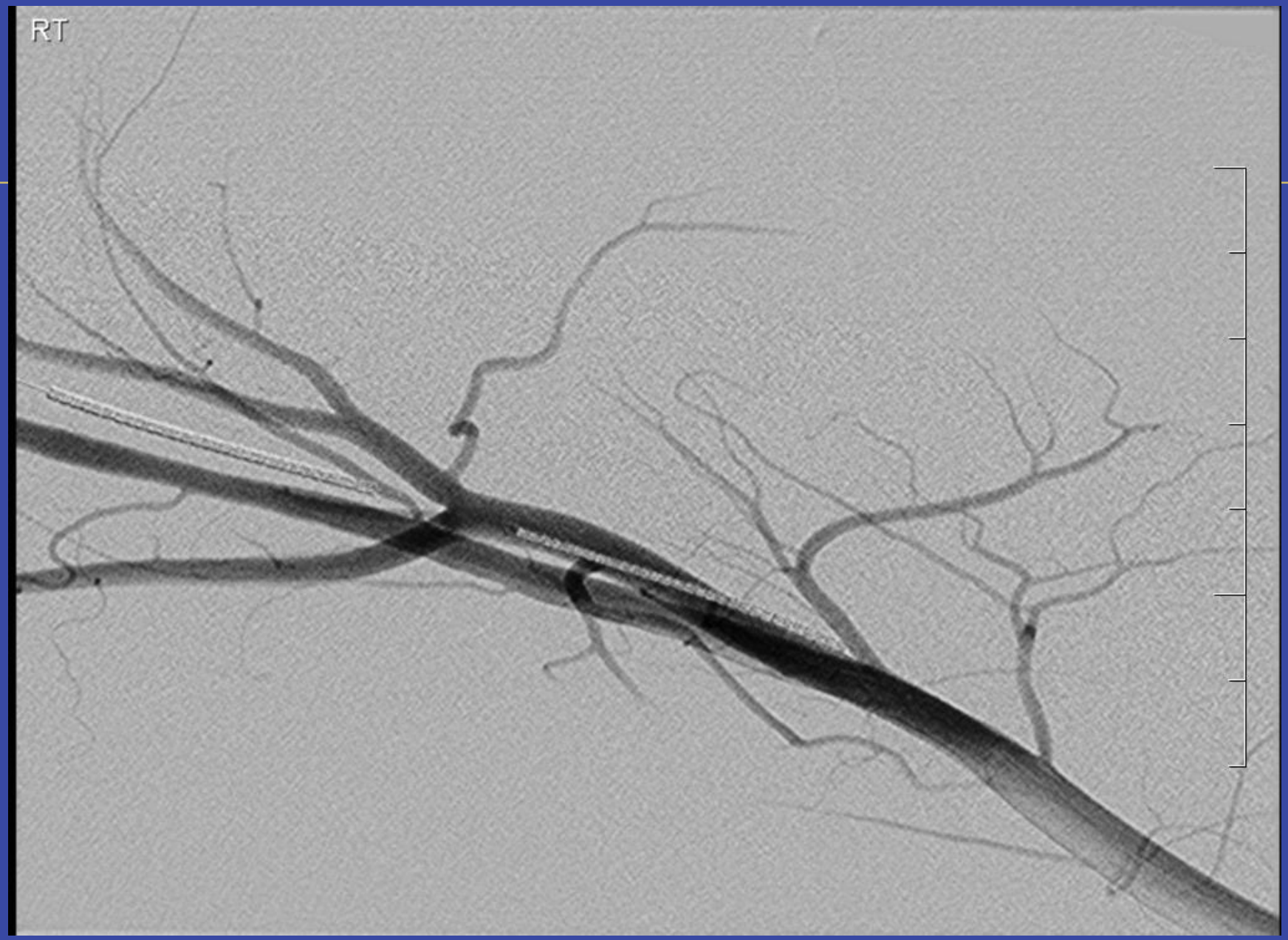
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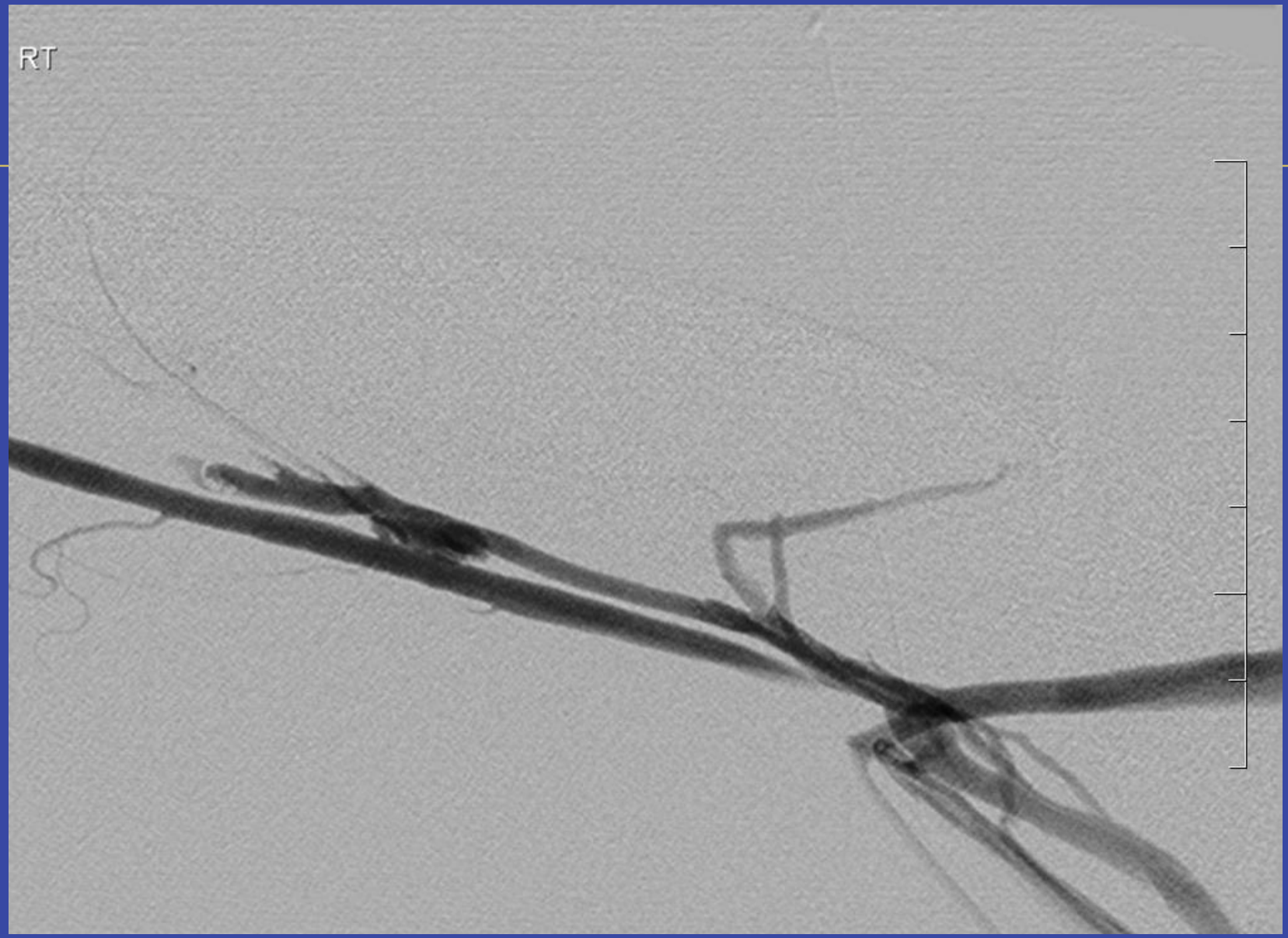
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RT


RT

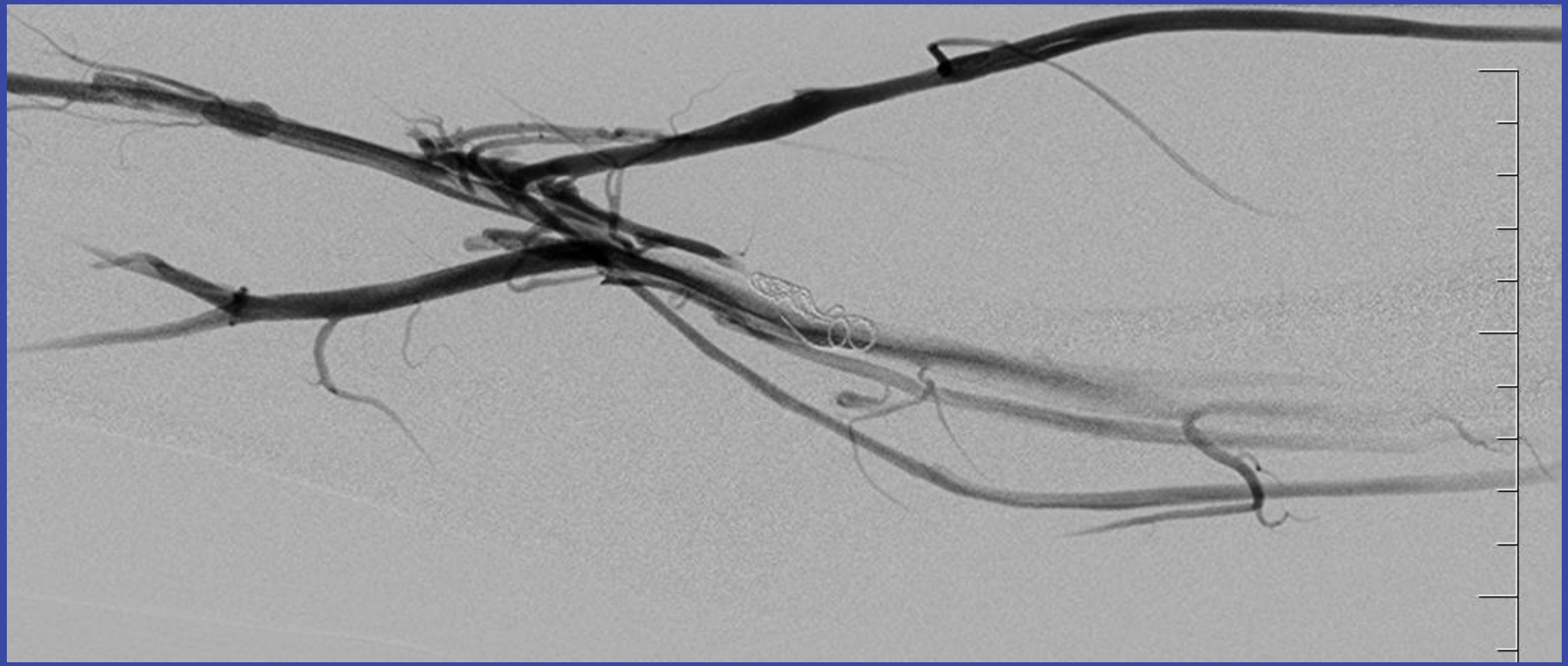
Failure

- What's the next option?



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Outcome

- Created September 2023
- Started using the fistula 8 weeks later
- Catheter removed February 2024
- Since then one angioplasty - perforator
- Still in use


GOOD NIGHT 😍❣️
Th-Th-Th-That's All Folks