

VA ultrasound examinations by nephrologists

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Disclosure

CSL Vifor

Baxter

Covidien

Boehringer Ingelheim

Ultrasound in Vascular Access

- Planning
 - Vein preservation
 - Mapping
- Follow-up
 - Maturation
 - Diagnosis
 - Surveillance
- Needling

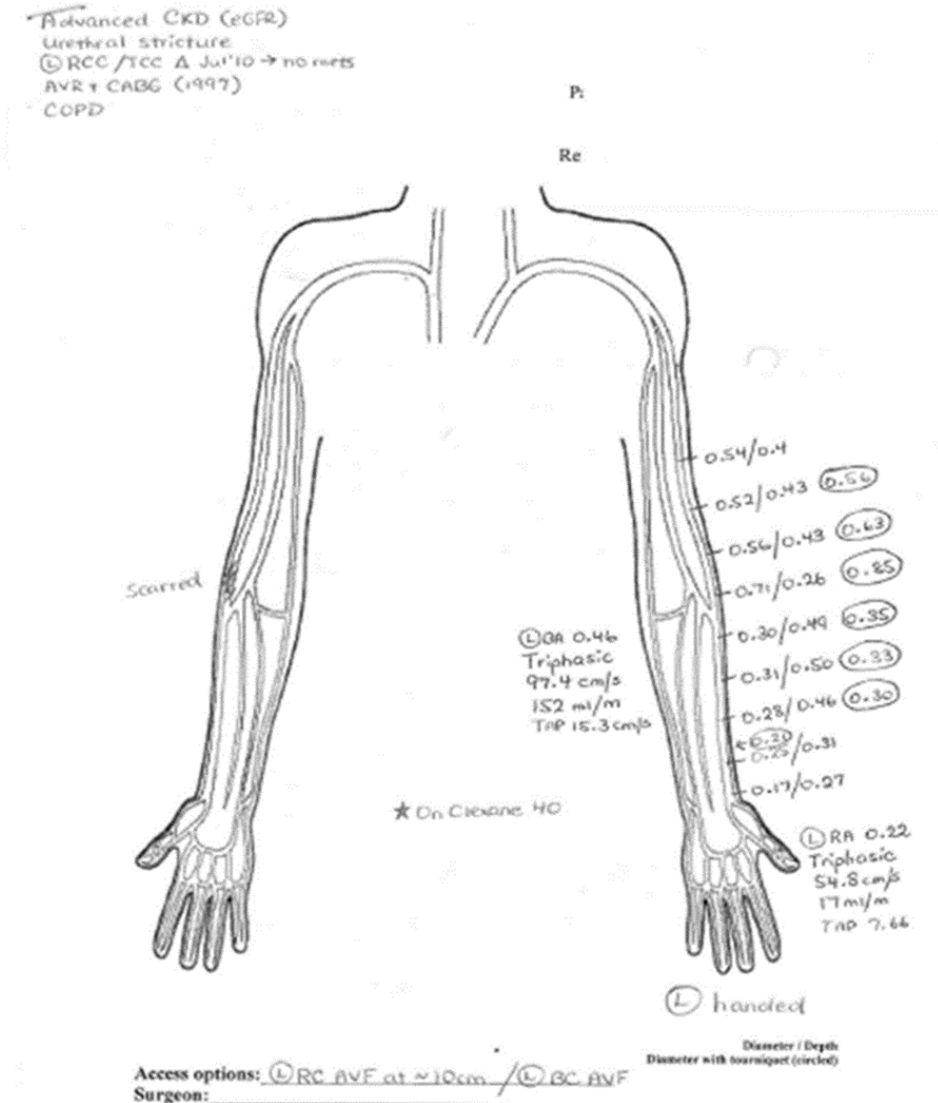
Planning vascular access

- Vein preservation
- Goal: maximum 2 attempts to achieve functioning access for most
- Overall prognosis and time to RRT start
- Patient priorities, e.g. quality of life, plan for homeHD

- NOT fistula first
- **Right access, right patient, right time, right reason**

Case 1: 'Best AVF option': short time to HD start / guarded prognosis

- 77M eGFR 9 with multiple comorbidities
- Creation L BC AVF 13/5/13
- HD start via AVF **29/5/13**
- Used this AVF for 9 years with no complications + no interventions!



Follow-up

EXAMINE!!!

- Look, listen, feel, elevate the arm

Assess dialysis parameters

- Pump speeds, pressures, postHD bleeding, recirculation, clearance

Examination + HD parameters = 90% of information

Ultrasound should confirm what you suspect, provide objective measurements and aid communication with wider team

Follow-up to see 'if you were right': successful cannulation, fistulogram images / report



Case 2: follow-up, planning, needling

65M

- ESRD >20 years
- Home HD since Oct 2022

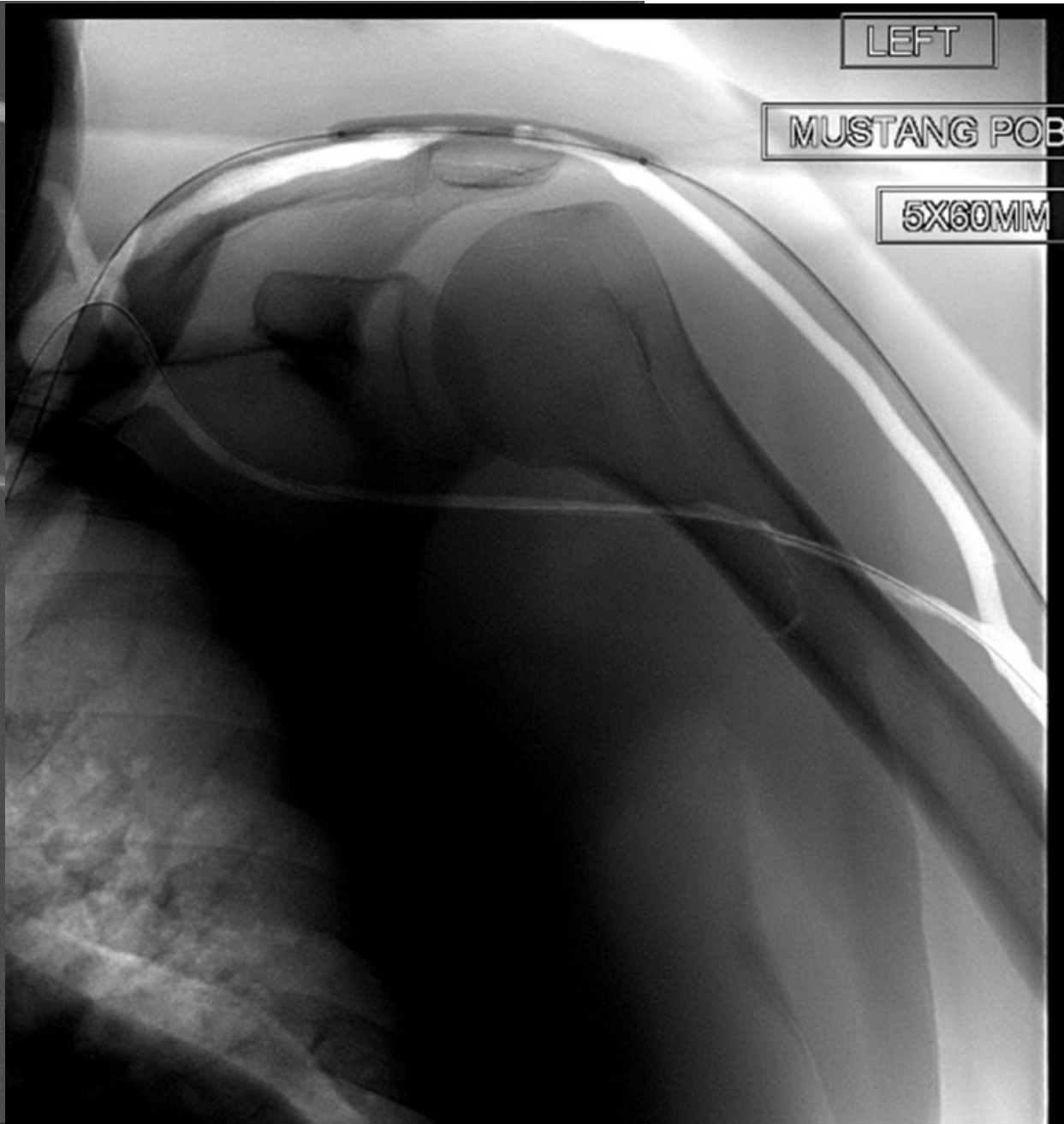
HD access

- RIJ TL
- L BC AVF Oct 2022
- RIJ TL removed 1/6/23

Prolonged postHD bleeding

Angioplasties 19/6/23 + 4/10/23

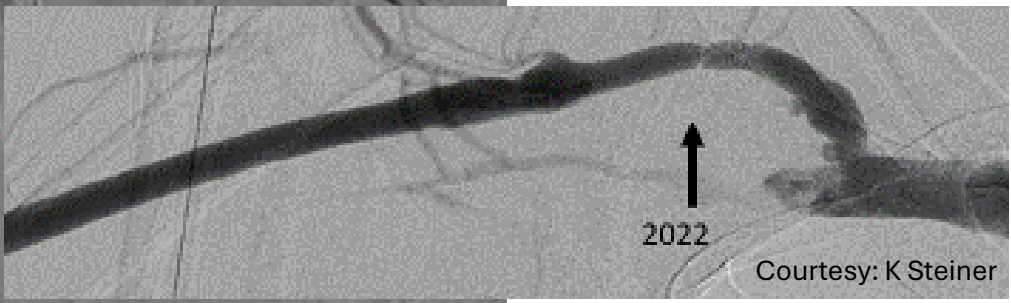




Partial thrombosis 17/11/23: Now what??

- RIJ tunnelled line
- New right brachiocephalic AVF (vessel diameters good at ACF)
- Other

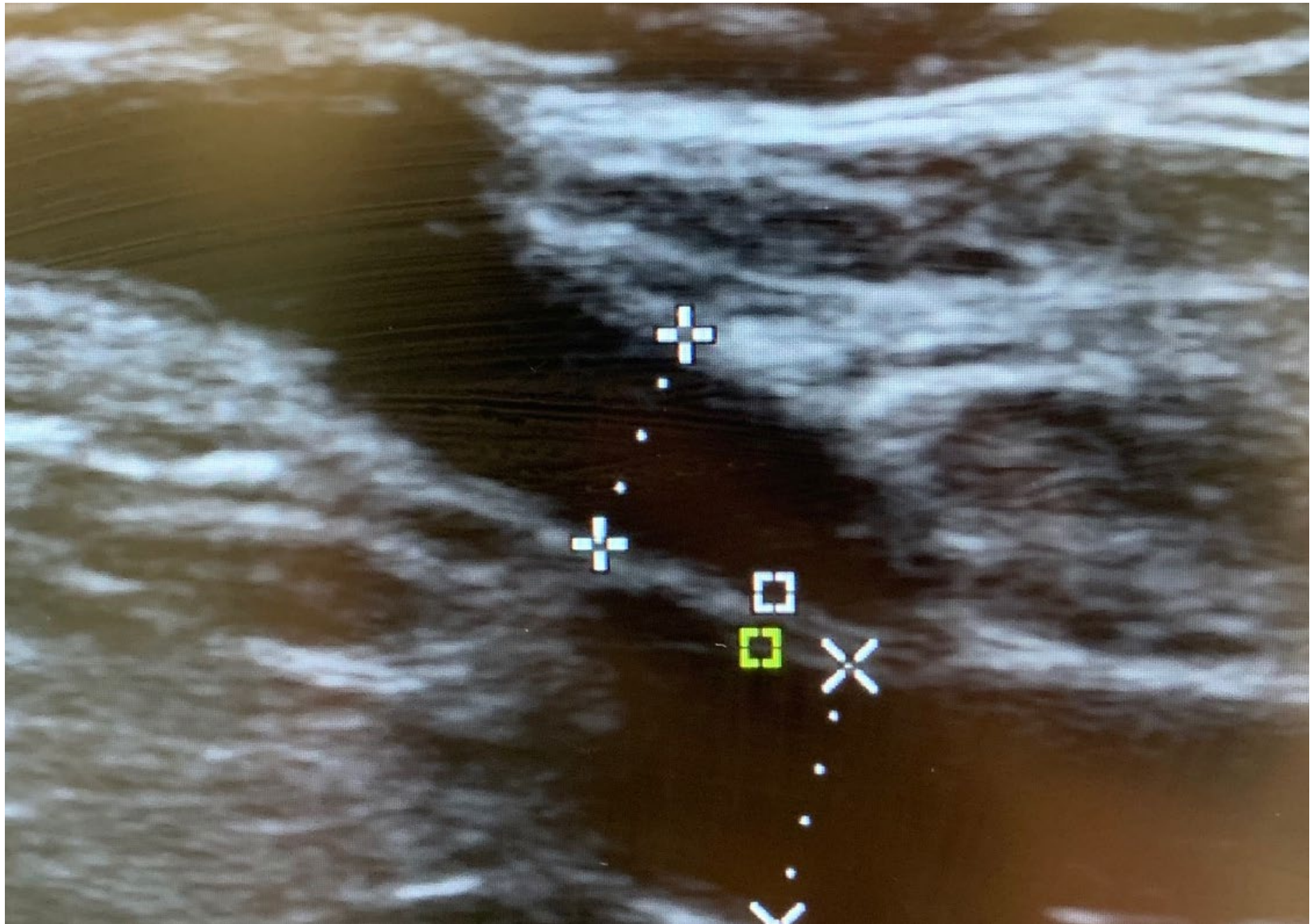
RIGHT



2022

Courtesy: K Steiner

Ellipsys



EndoAVF 7/12/23



Case 3

62F

eGFR 10

L BC AVF 10 days prior



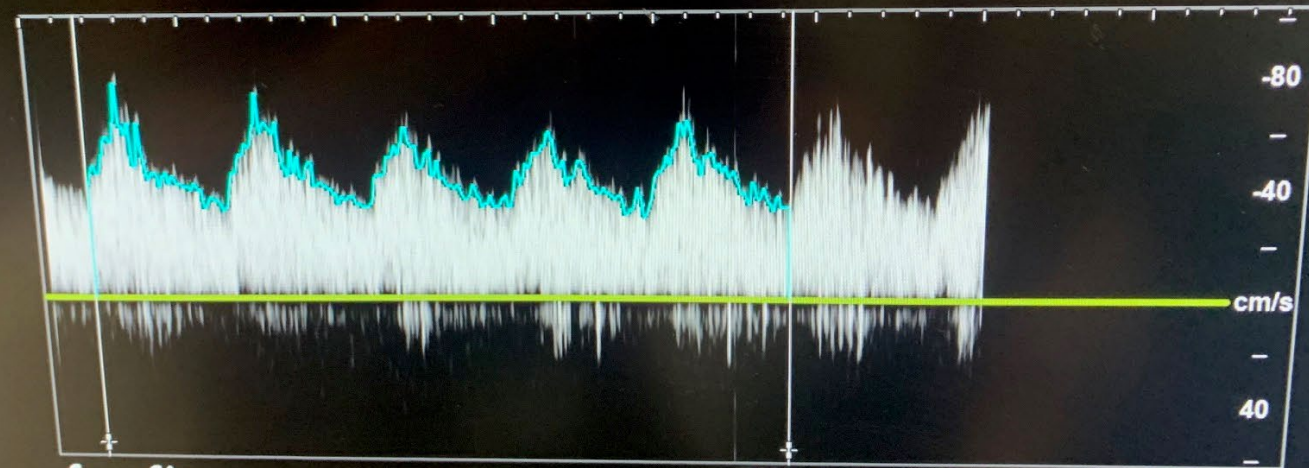
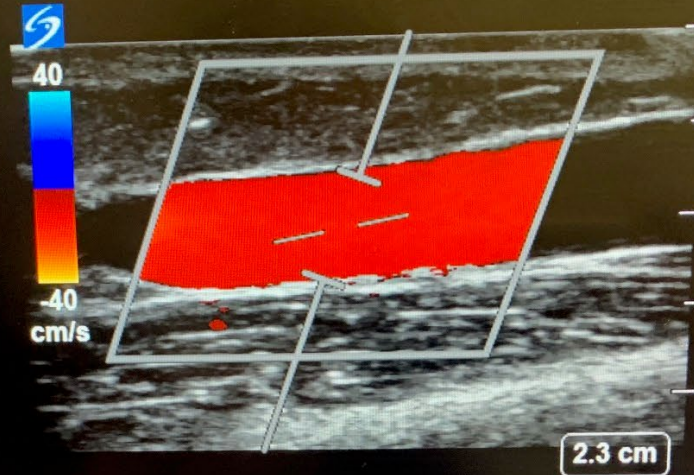
9 Feb 2023 / 11:46

Volume Flow

VF' 973ml/min

† TAP -46.0cm/s

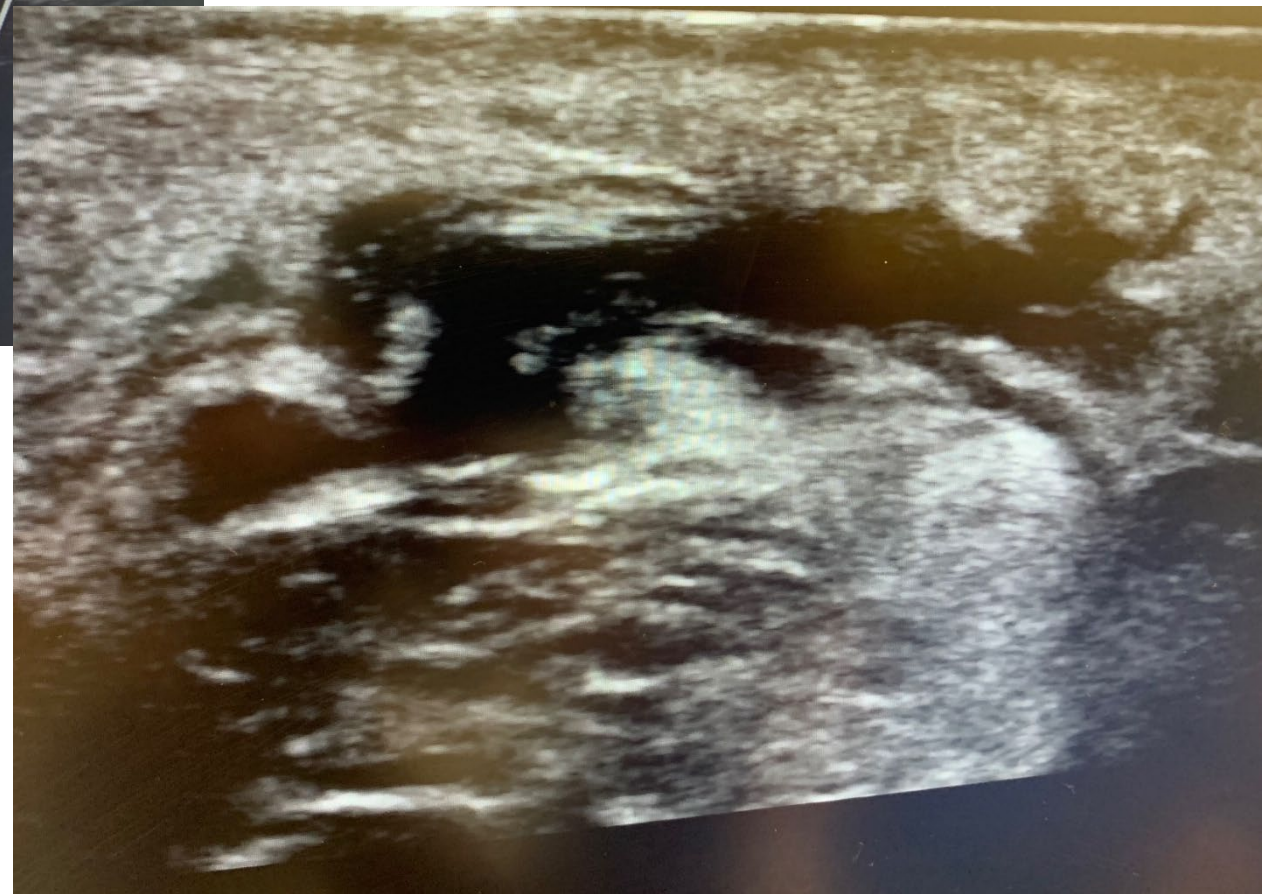
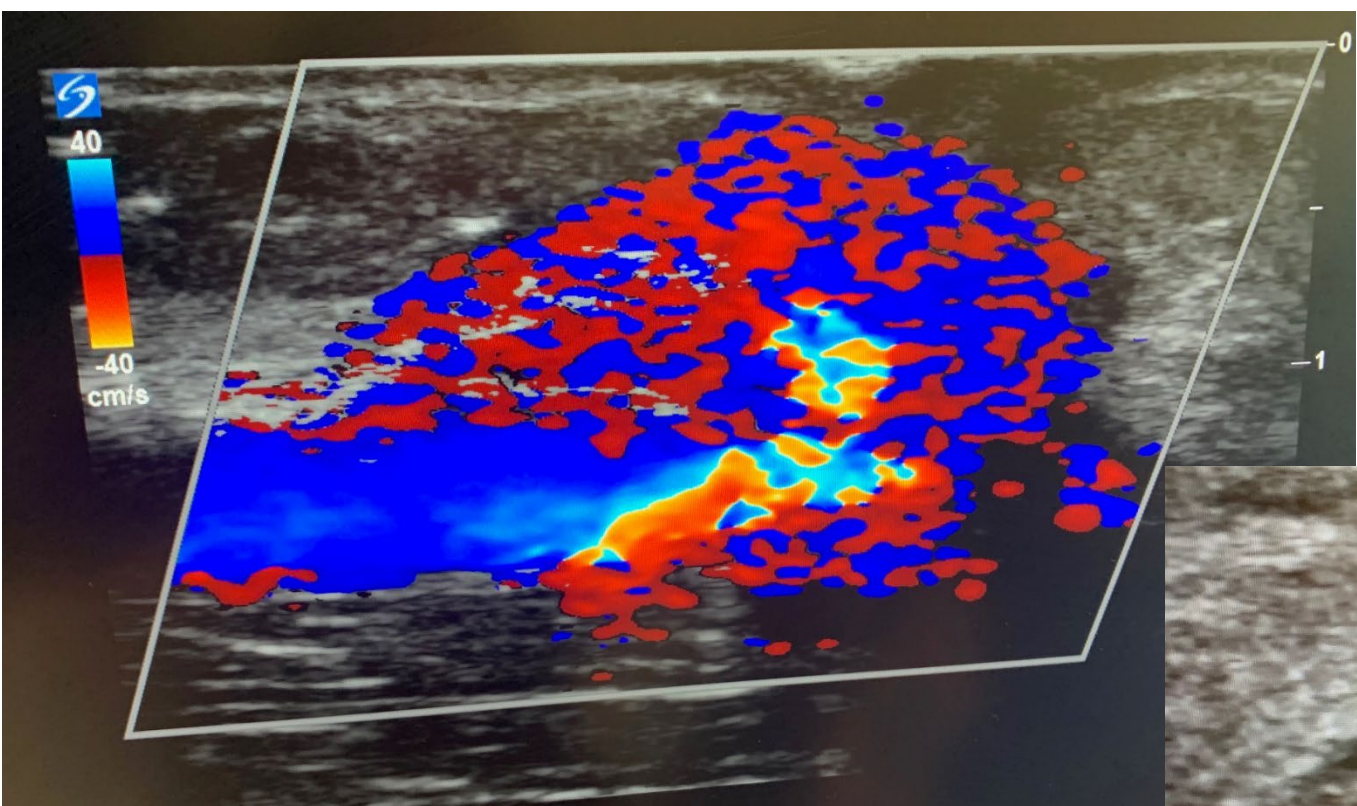
VTI -207.9cm



RENAL

SonoSite
HFL38xp/13-6 Arterial
MI: 0.4 TIS: 0.2

PW: G: 50
6mm, -60°
5208Hz
-20°
Color: G: 50
High Res
6250Hz
-20°
2D: G: 50
DR: 0



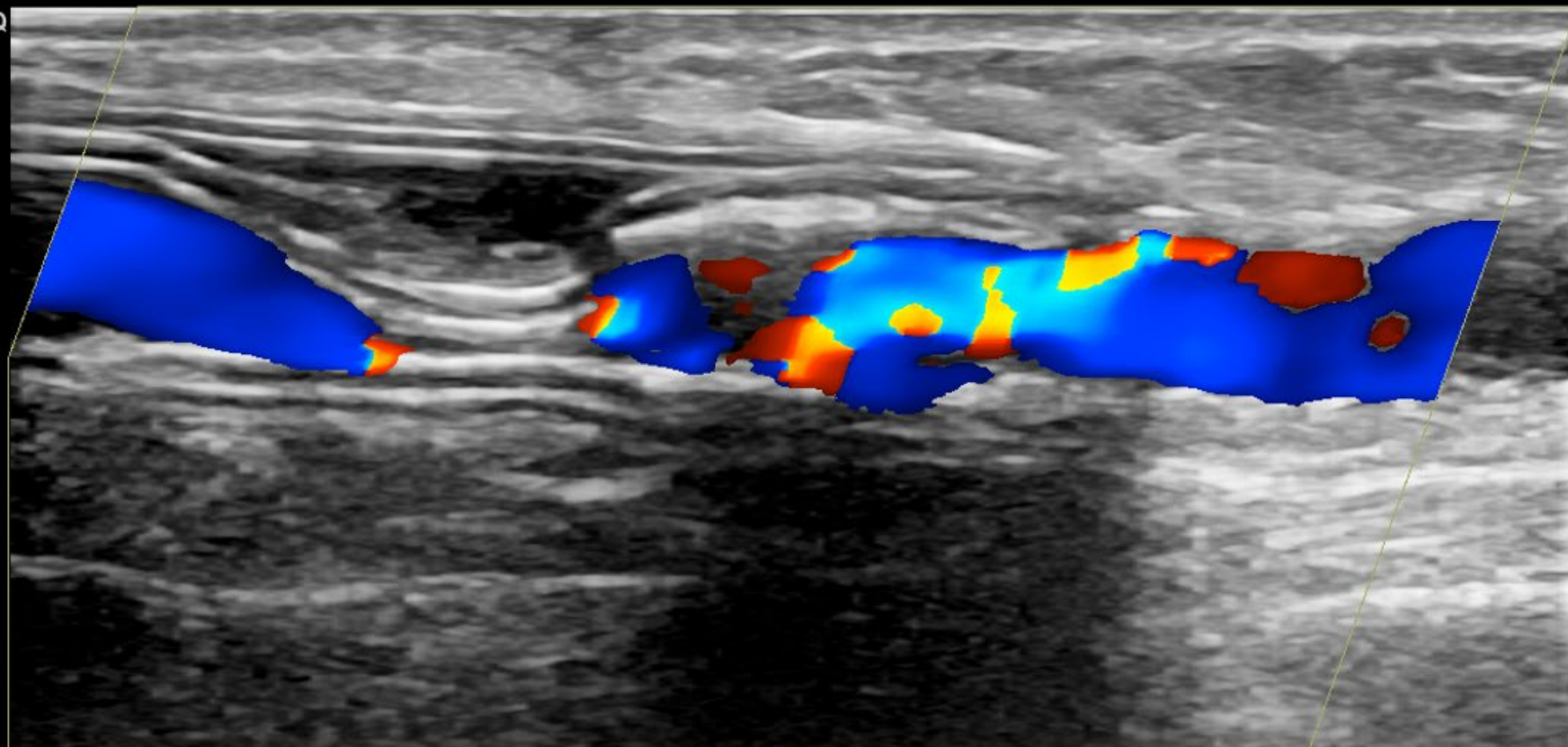
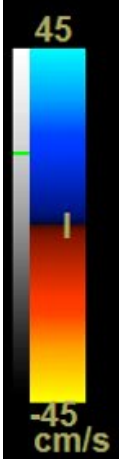
Case 4 (K Steiner + J Hanko)

May 2023 – difficulty needling



LOGIQ
E9

LOGIQ
E9



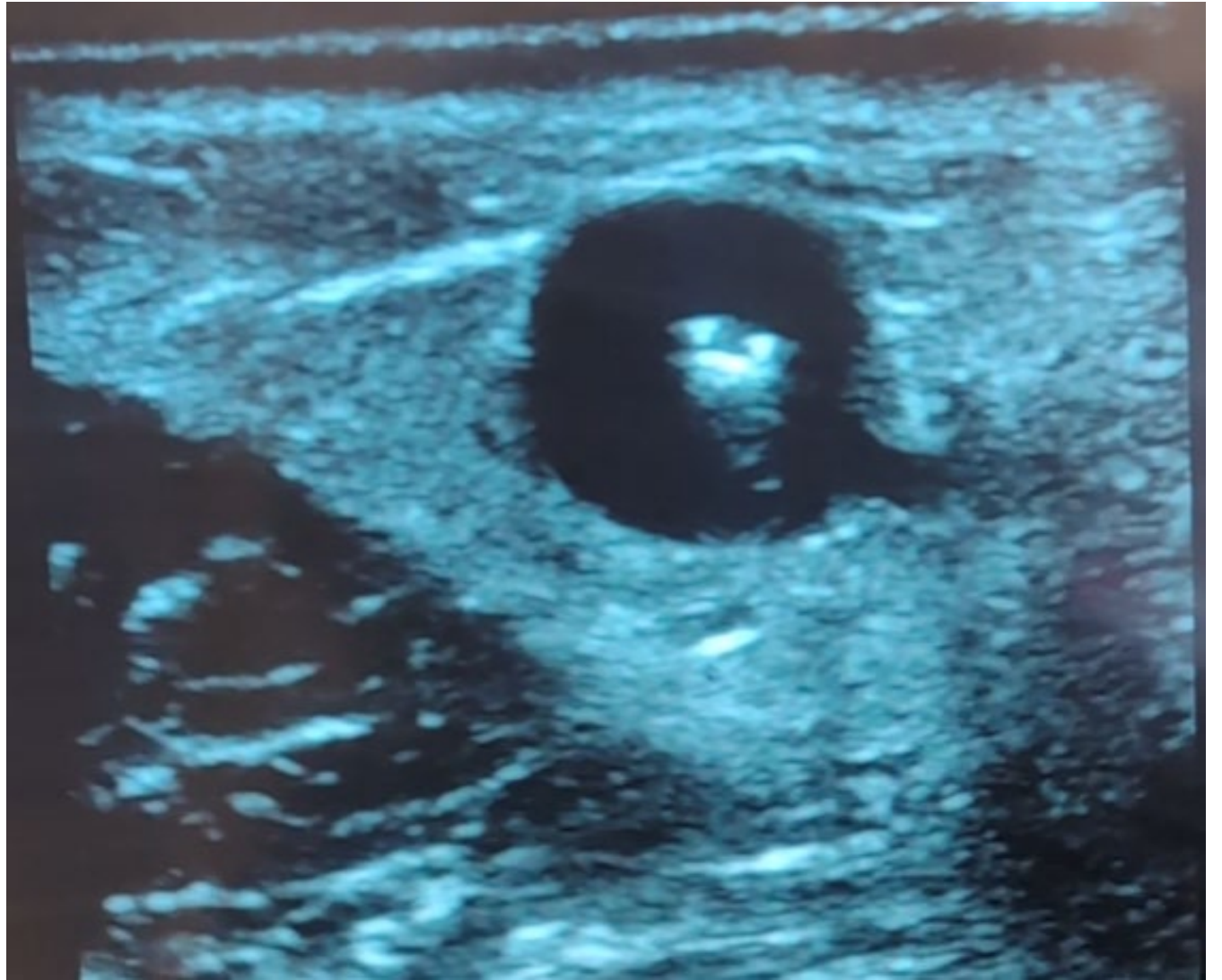
RIGHT GRAFT STENT

Case 5: cannulation



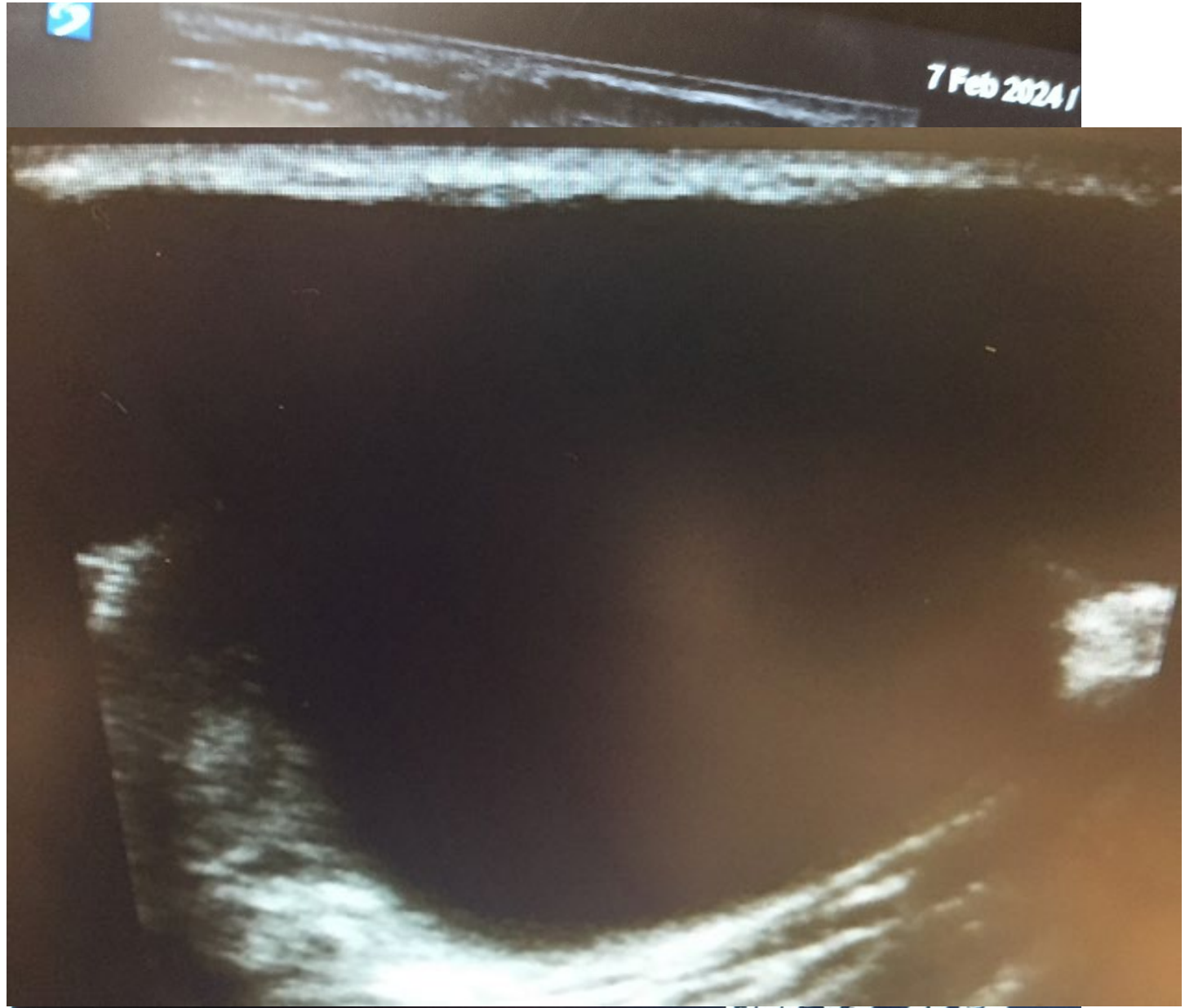


Marking helps but not always exact – use your skills



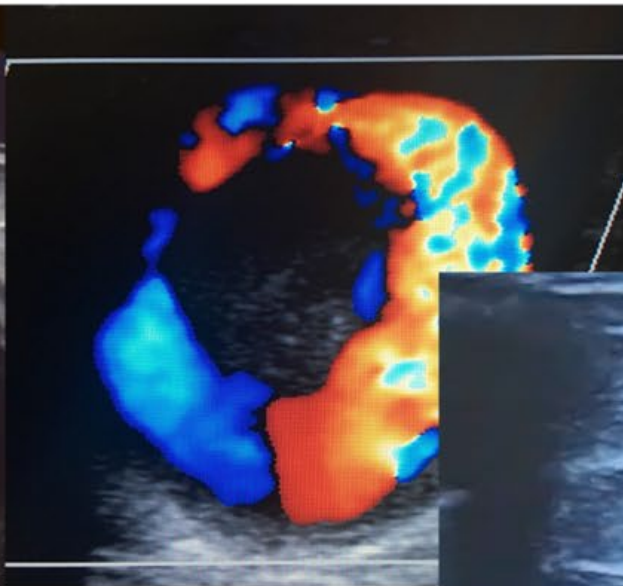
Needle in centre of vessel

Complications: a few pictures



3-6 Arterial
0.4

Color: 0.0 2D: 0.0
Med Res DIC: 0
250Hz
0"





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