



**OTTAVO CORSO NAZIONALE CONGIUNTO
GIUV - SIDV - SINSEC : ULTRASONOLOGIA
VASCOLARE DIAGNOSI E TERAPIA
BERTINORO, 14 - 17 APRILE 2010**

**FISTOLE ARTERO - VENOSE (FAV):
FAV nel paziente dializzato: Il parere dell' angiologo.
D. Righi (Firenze)**

GUIDELINE 3

Selection of Permanent Vascular Access and Order of Preference for Placement of AV Fistulae

A. The order of preference for placement of AV fistulae in patients with kidney failure who will become hemodialysis dependent is:

1. A wrist (radial-cephalic) primary AV fistula (Evidence)
2. An elbow (brachial-cephalic) primary AV fistula (Evidence/Opinion)

B. If it is not possible to establish either of these types of fistula, access may be established using:

1. An arteriovenous graft of synthetic material (eg, PTFE) (Evidence) or
2. A transposed brachial basilic vein fistula (Evidence)

C. Cuffed tunneled central venous catheters should be discouraged as permanent vascular access.

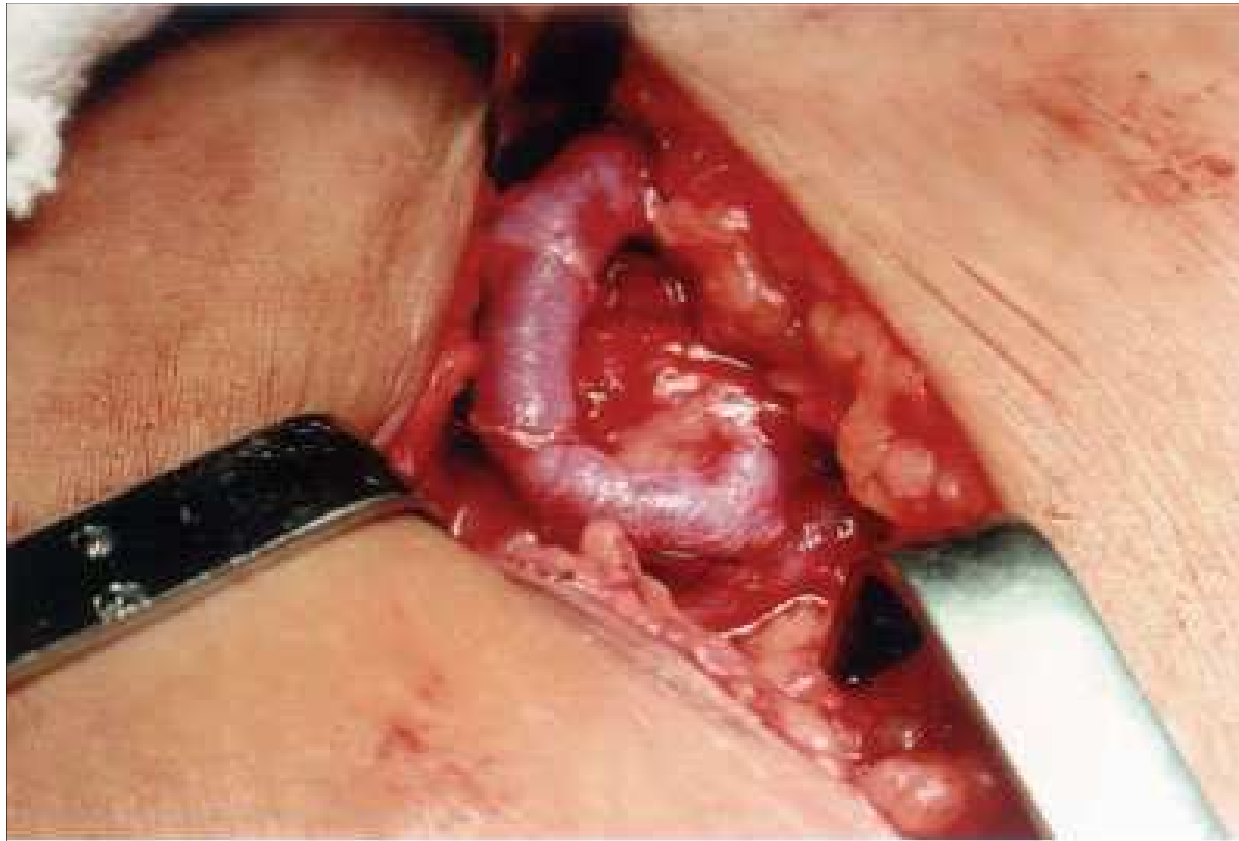
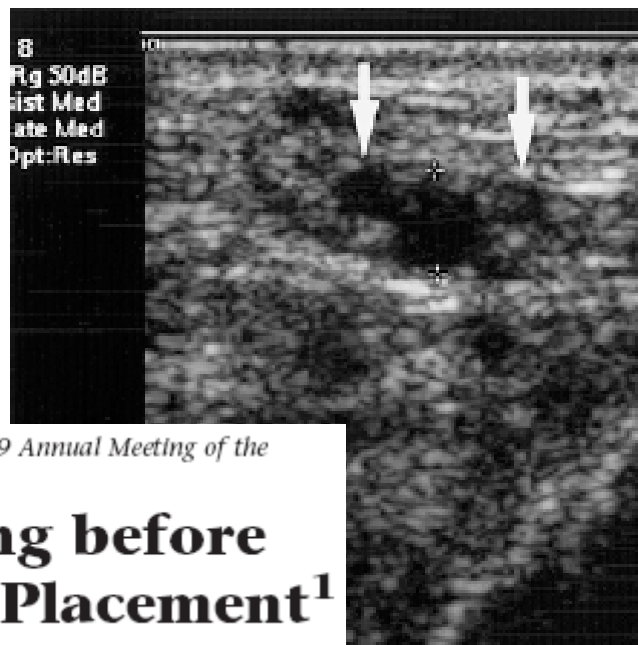
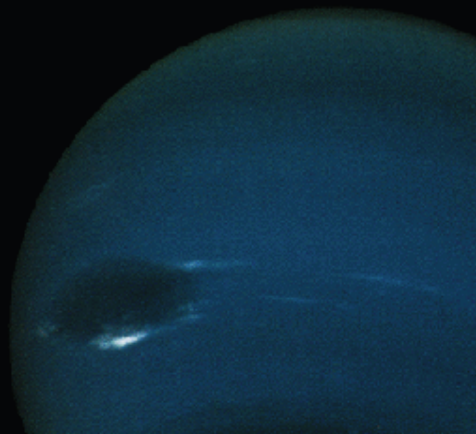


Figure 2 - Brachiocephalic arteriovenous fistula. Note the termino-lateral anastomosis of the vein to the artery.



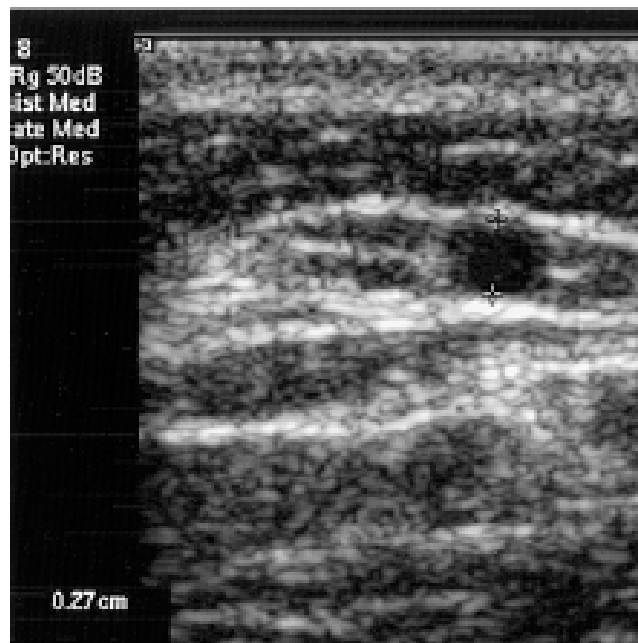
Figure 3 - Patent radiocephalic arteriovenous fistula in a girl weighing 15 kg.



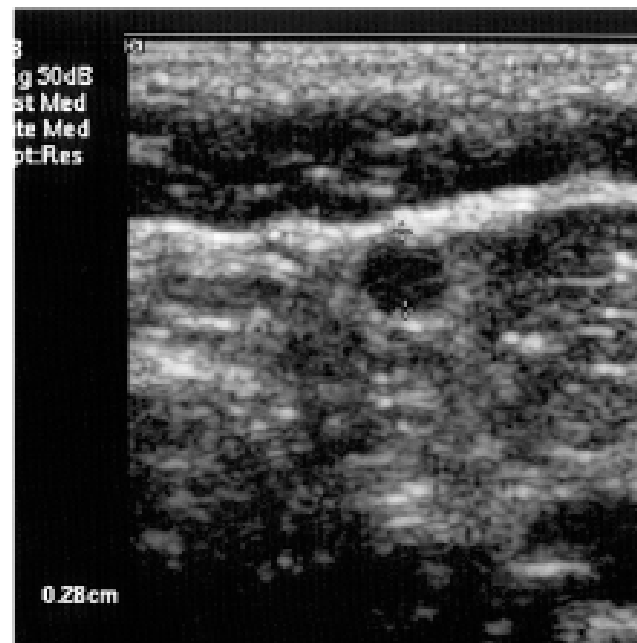
This paper received the Larry Mack Award at the 1999 Annual Meeting of the Society of Radiologists in Ultrasound.

US Vascular Mapping before Hemodialysis Access Placement¹

a.



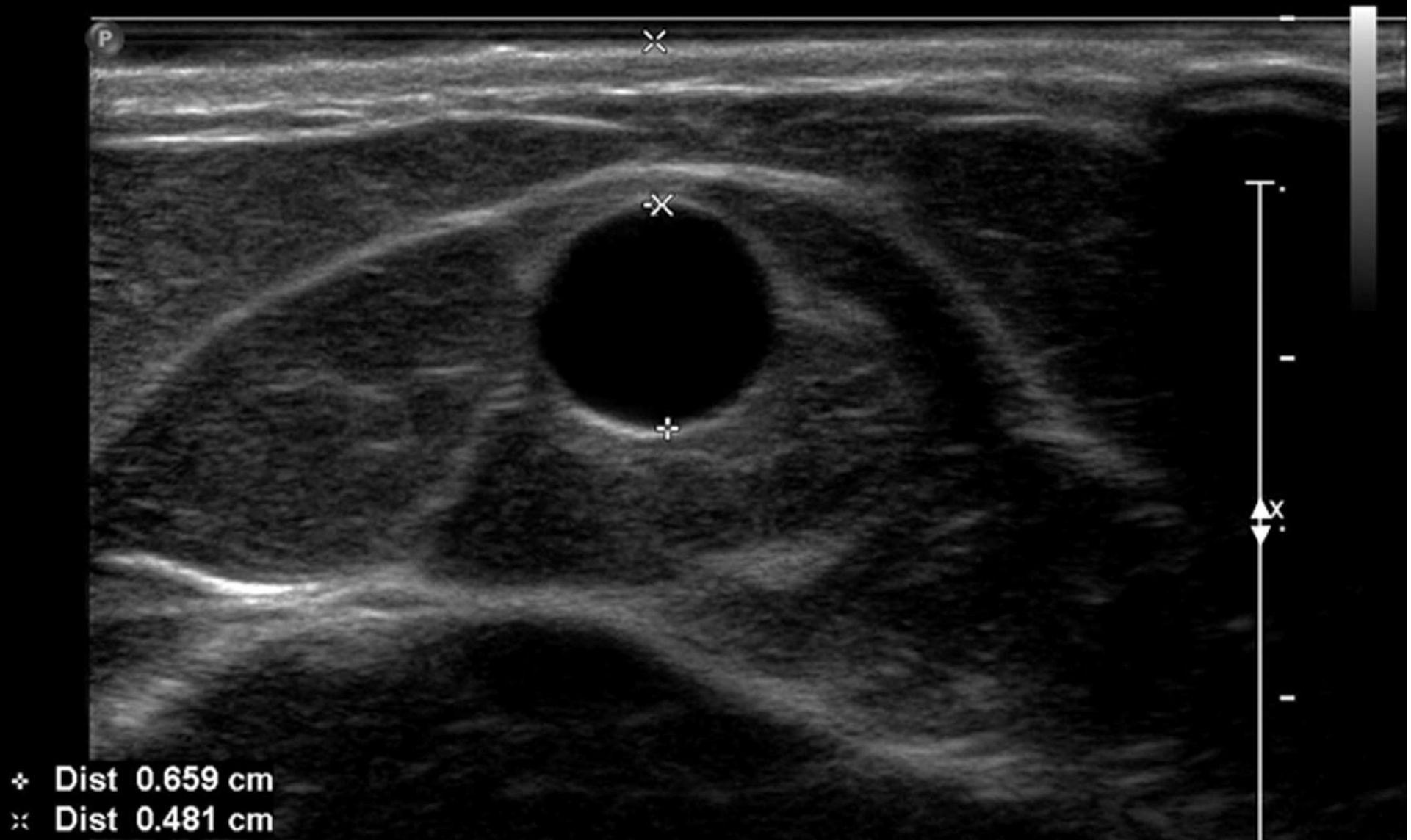
b.



c.

d.

Figure 1: Normal diameter fistula



+ Dist 0.659 cm
x Dist 0.481 cm

Radiology

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5000

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L12-5 38 WchTI./OfI

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TIw 0.1 MI 0.47

Bild 155 3.0 cm

B-mode image of a thrombosis in the venous outflow tract, showing both fresh (low echogenicity) and older (high echogenicity) thrombotic material

Skala 3

170 dB/C 5

Persist mittl

2D Opt:AufI

Bildfrqz:Hoch

XRes™

vein

thrombus

- 1

- 2

x

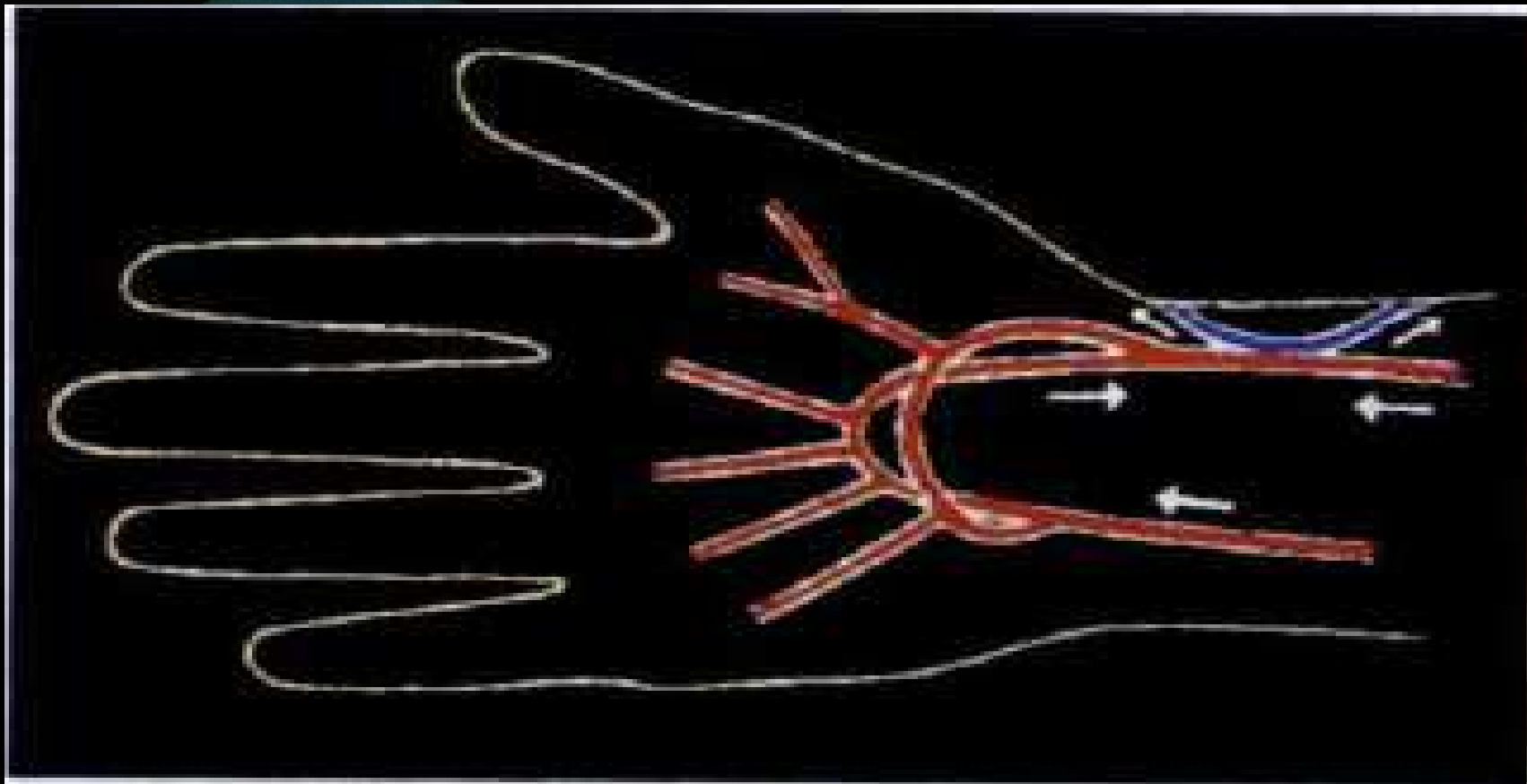


Figure 12. Diagram demonstrates radial artery steal, commonly seen with Brescia-Cimino fistulas. Arrows indicate direction of flow. Blood flow from the ulnar artery contributes to fistula flow via the palmar arches and retrograde flow in the distal radial artery.

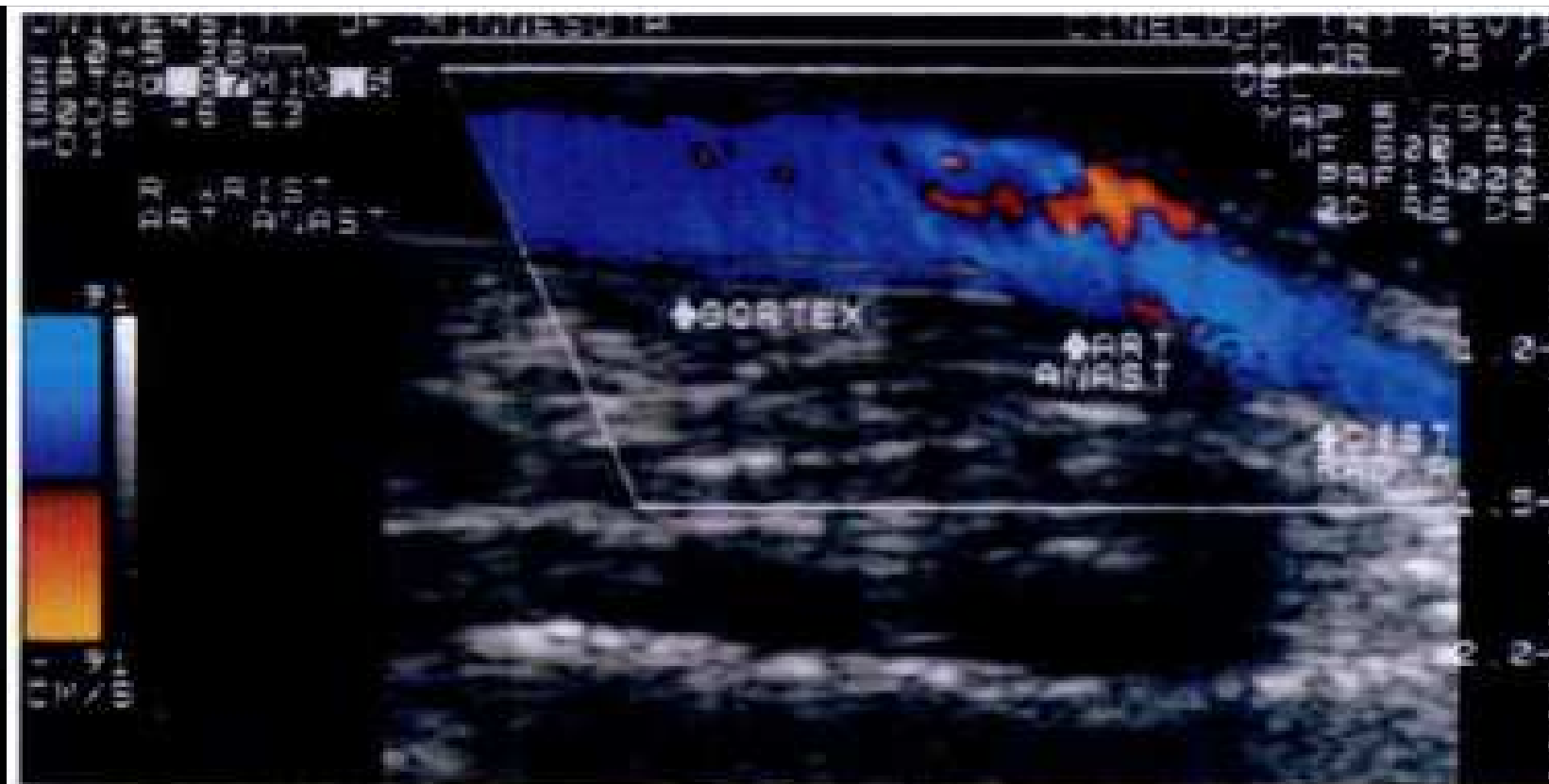


Figure 14. Radial artery steal secondary to a straight forearm PTFE graft in an asymptomatic patient. Color Doppler sonogram clearly shows flow in the distal radial artery (*DIST RAD A*) to be in the same direction as flow in the graft (*GORTEX*), indicating arterial steal. The proximal radial artery is not seen in this image because it is in a different plane. *ART ANAST* = arterial anastomosis.

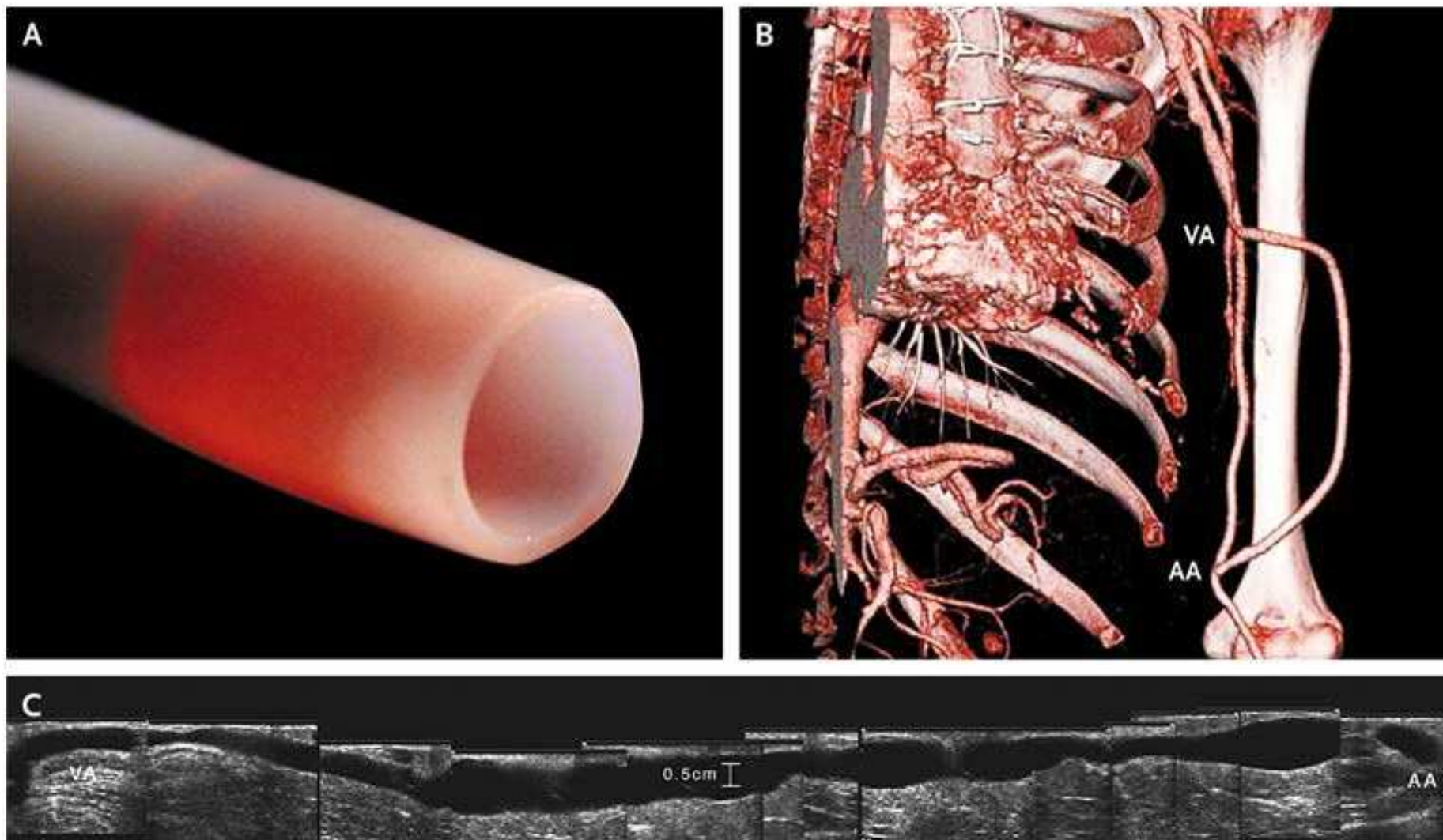


Figure 1. The Tissue-Engineered Blood Vessel Preoperatively (Panel A), at 3 Months after Implantation (Panel B, Computed Tomographic Angiography), and at 12 Months after Implantation (Panel C, Doppler Ultrasonography). VA denotes venous anastomosis, and AA arterial anastomosis.

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