LA DIAGNOSTICA STRUMENTALE DELLA TVP

TROMBOSI VENOSA DEGLI ARTI SUPERIORI E INTRADDOMINALI

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TROMBOSI VENOSA PROFONDA - TVP

ostruzione, parziale o completa, di una o più vene del circolo profondo

Arti Inferiori

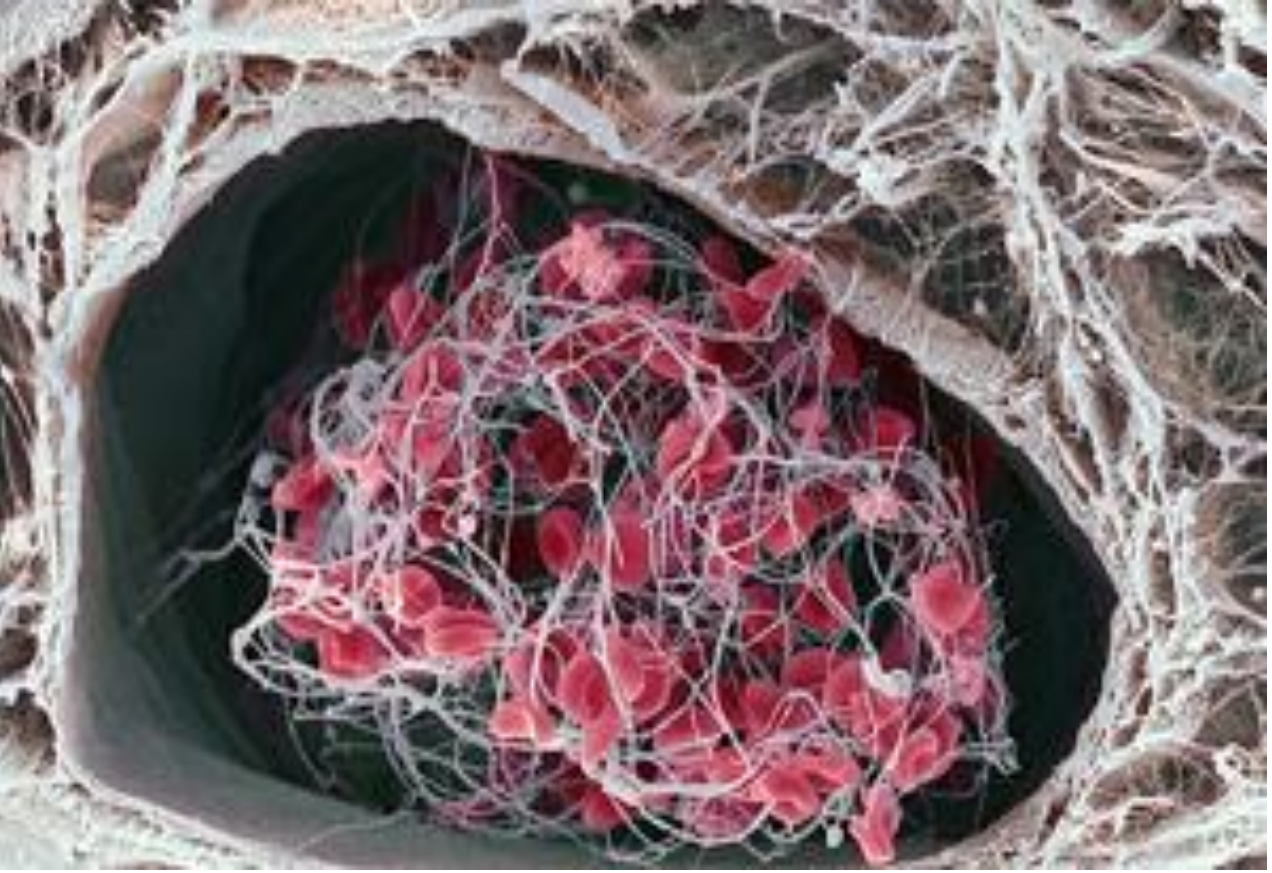
Arti Superiori

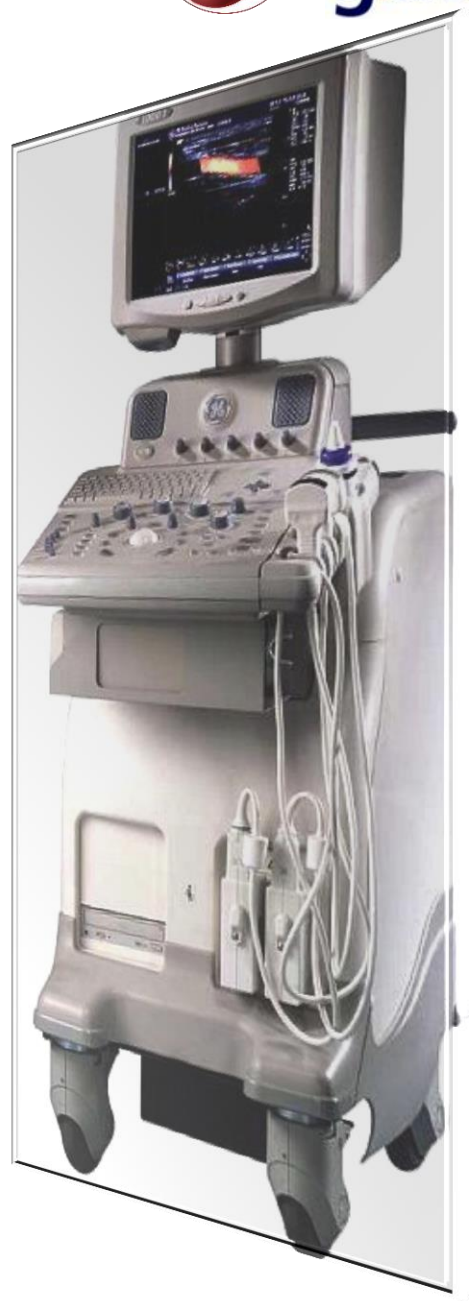
Confluenza
Circolo Venoso Superficiale/
Circolo Venoso Profondo

Valenza Terapeutica

Assi iliaci - Cava Inferiore - Vasi addominali

Vasi del Collo - Vasi Intracranici





CRITERI DIAGNOSTICI

Dilatazione della vena

Incomprimibilità

Presenza di echi patologici endoluminali

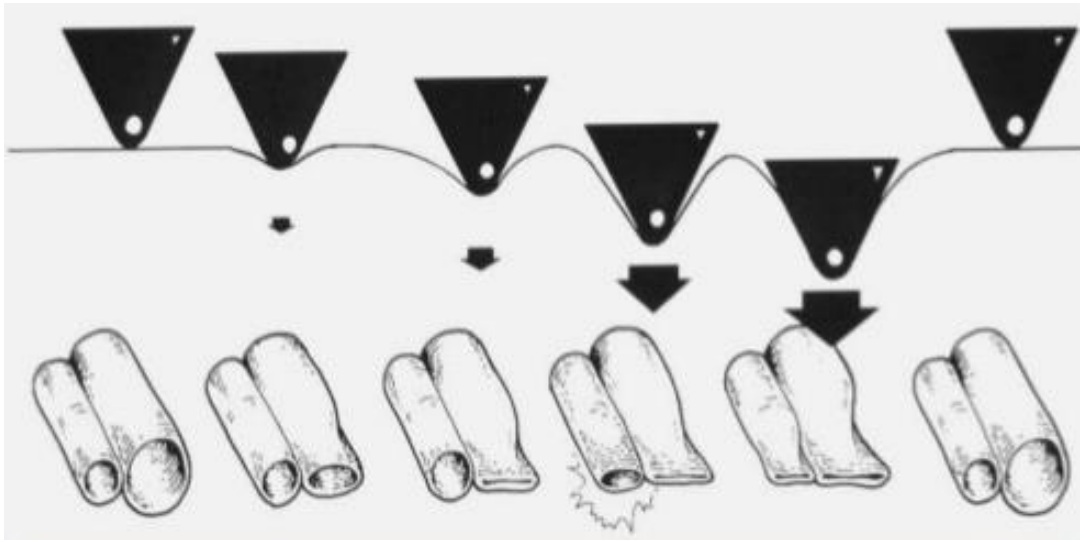
Riduzione /Assenza di flusso

TVP - CUS

Il criterio diagnostico principale per la presenza o assenza di TVP è il test di compressione (**Compression Ultra Sonography = CUS**) che si esegue esercitando una leggera pressione con la sonda sul tratto venoso esaminato

ciò permette di stabilire se le pareti della vena collabiscono

una vena completamente comprimibile non contiene trombi



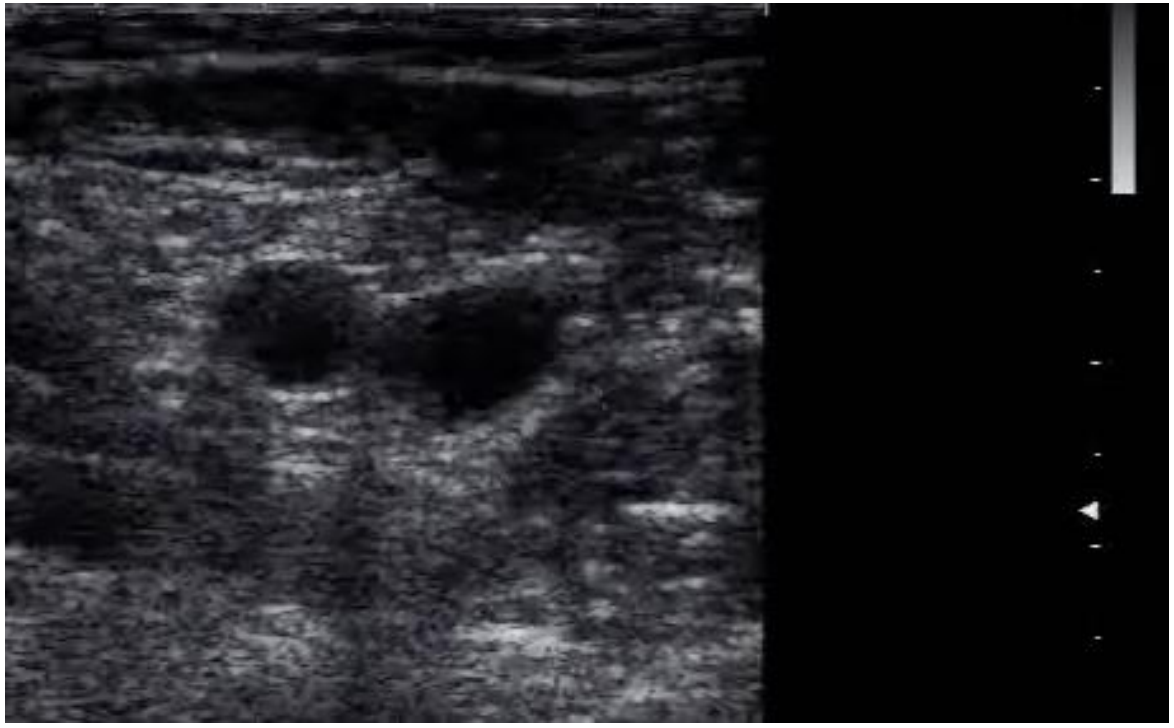
CUS TVP Prossimali

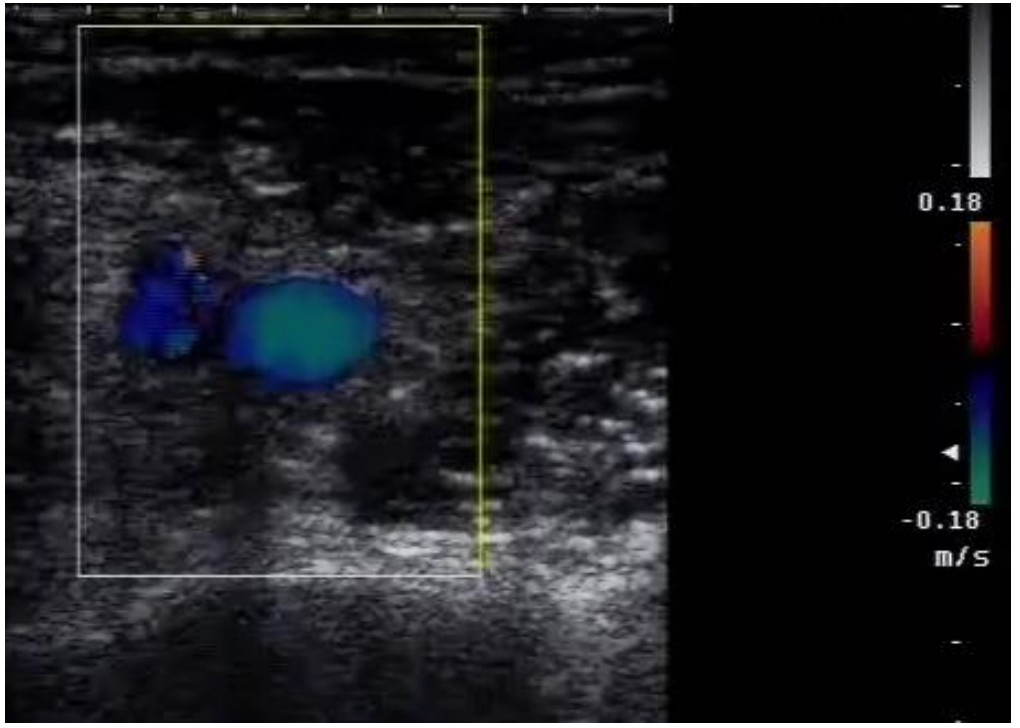
Sensibilità = 96.5%

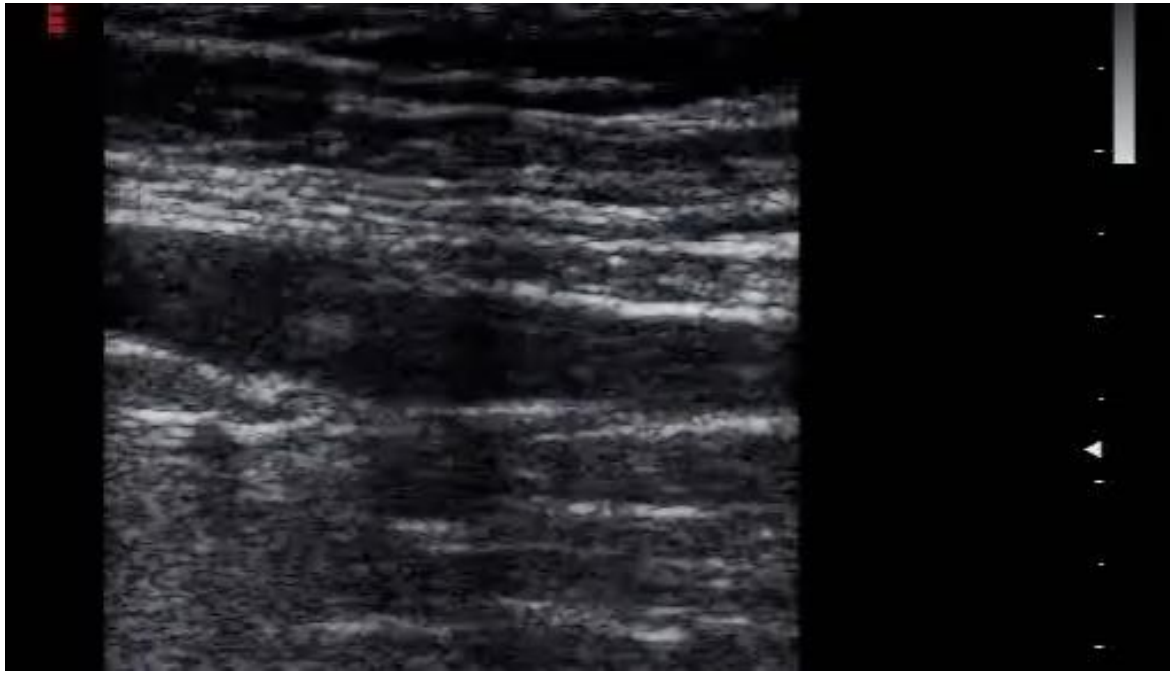
Specificità = 94.3%

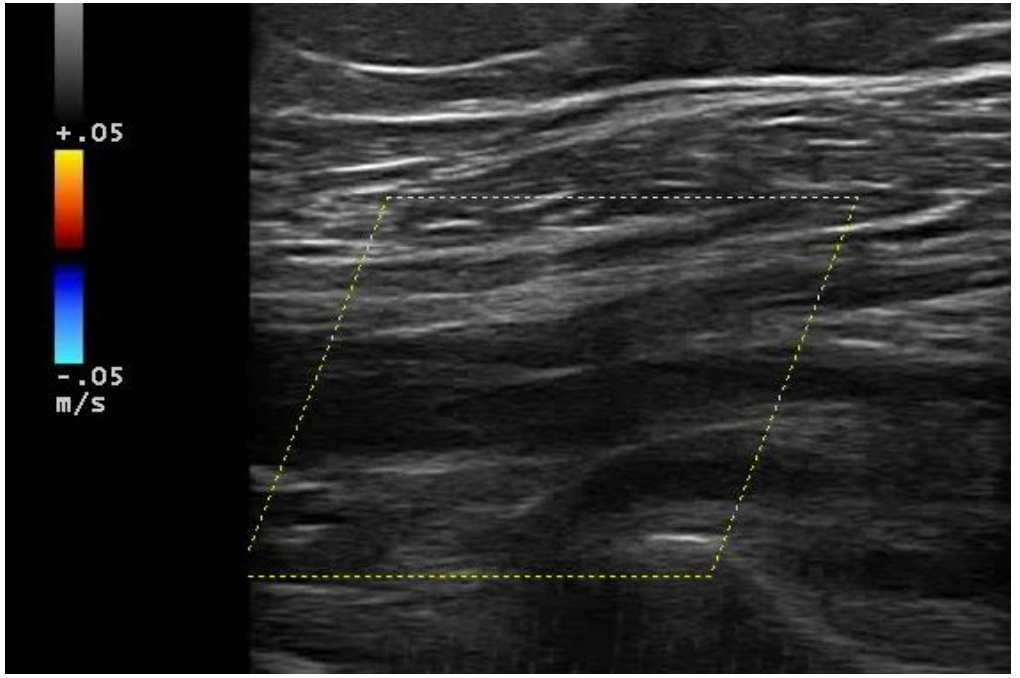
Lensing NEJM 1989, Prandoni Thromb Haemost 1991, Hejboer Thromb Haemost 1991, Cogo BMJ 1998,

Goodacre S, Sampson F, Thomas S et al. Systematic review and meta-analisys of the diagnostic accuracy of ultrasonography for deep vein Thrombosis BMC Med imaging 2005

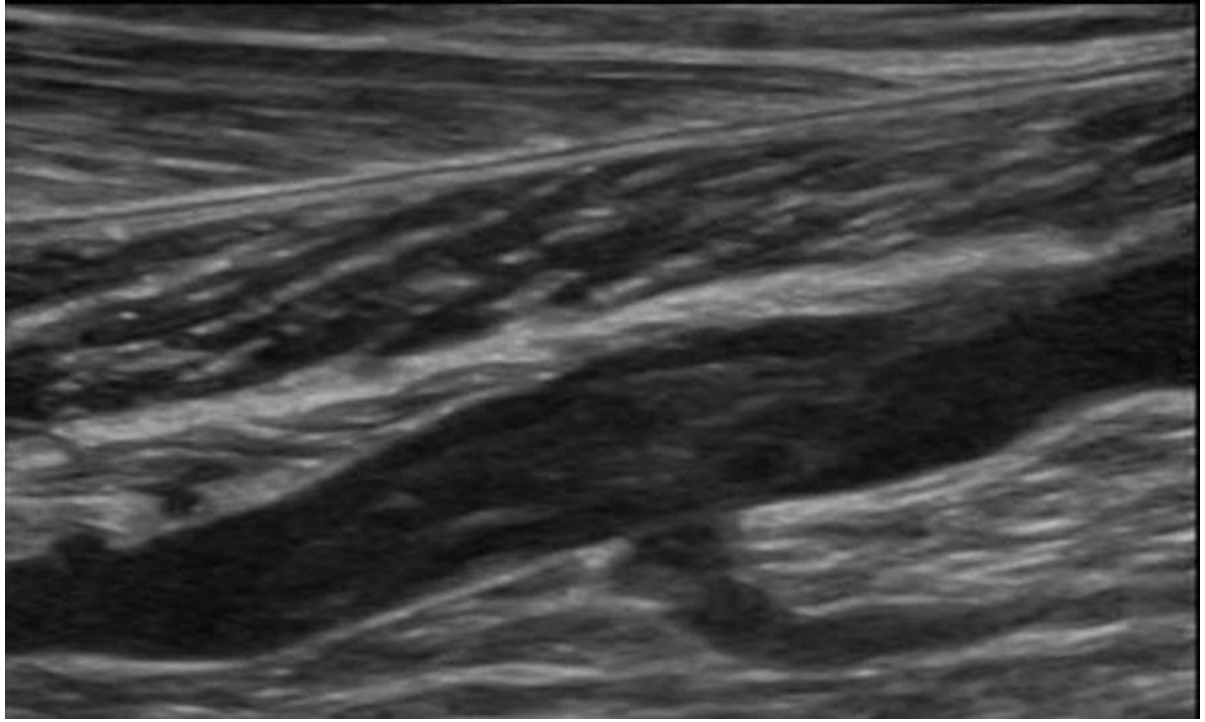



0.18
-0.18
m/s

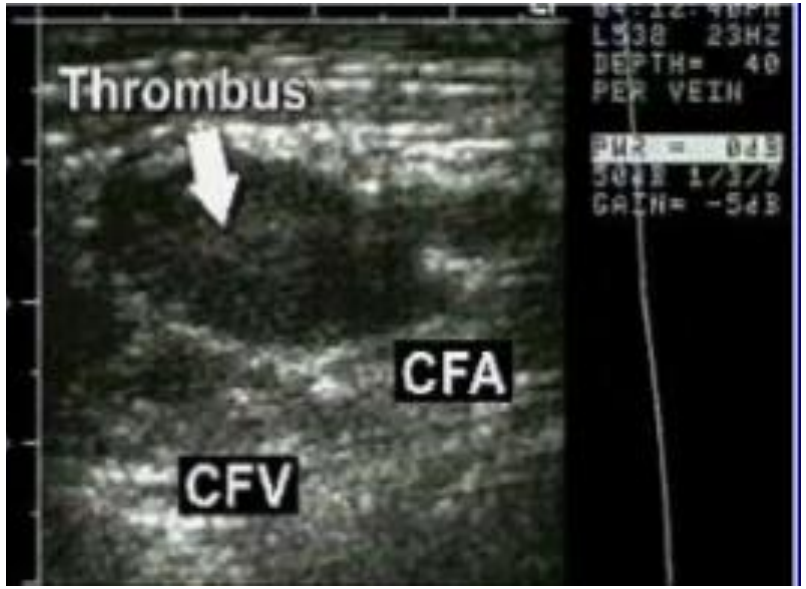



+.05
-.05
m/s

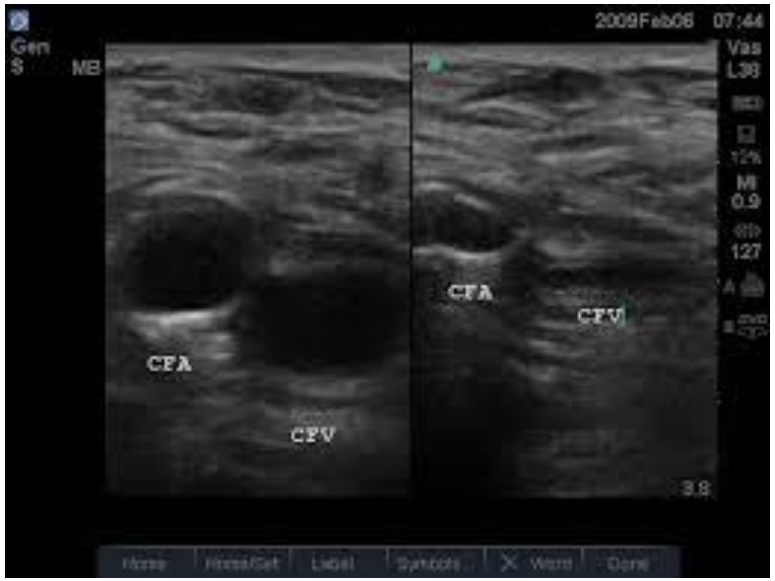

PHILIPS
LE Vein
L12-5
MI 0.8
TIS 0.2
F3 Gn 40
232dB/C3
E/2/4
72Hz Zoom
G
P R
5.0 12.0
TROMBOSI DELLA VENA FEMORALE COMUNE

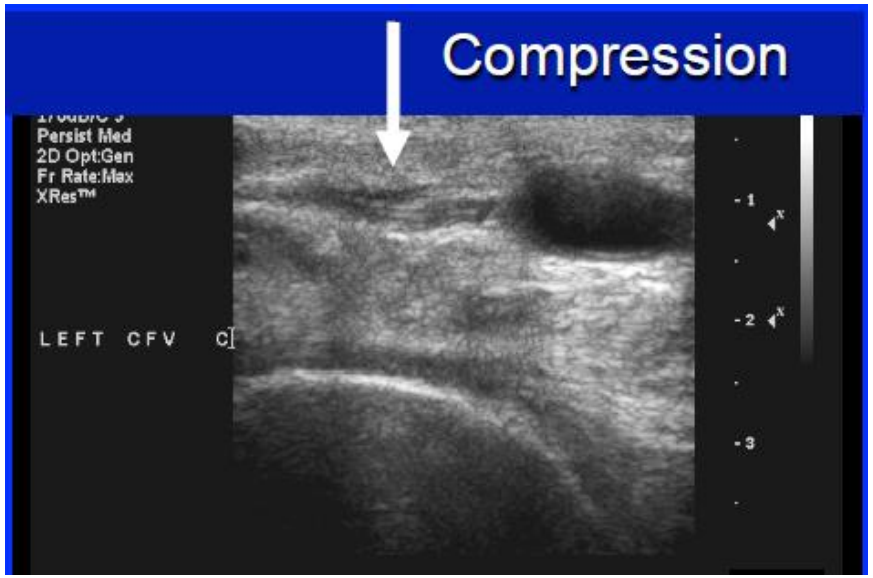


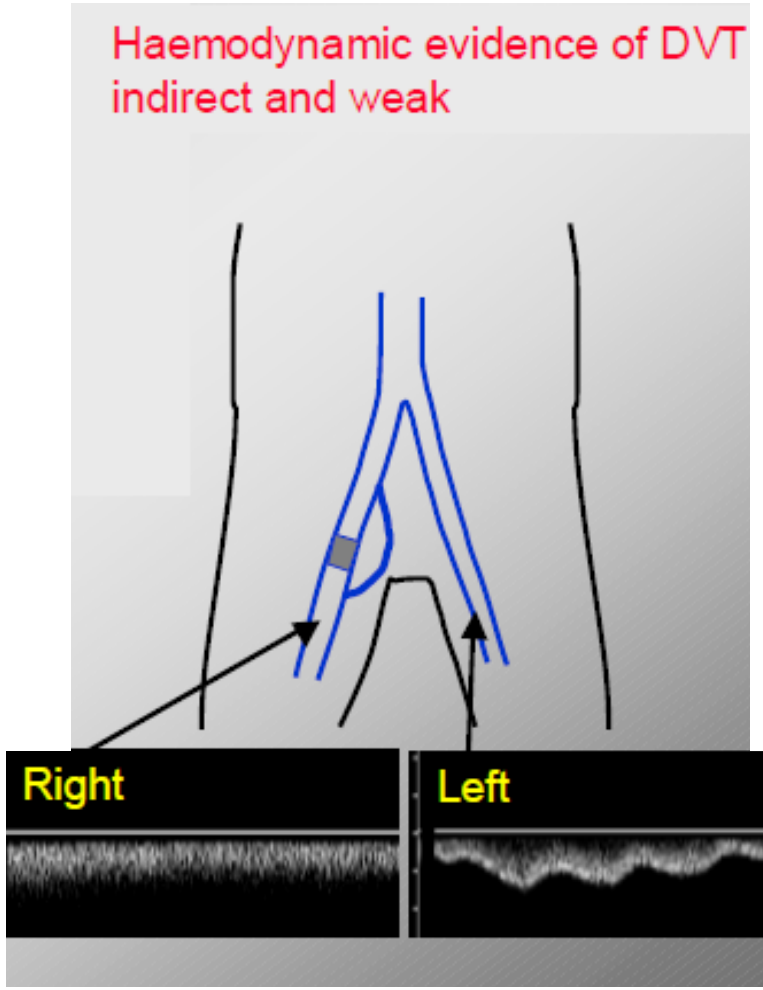

CFA
CFV

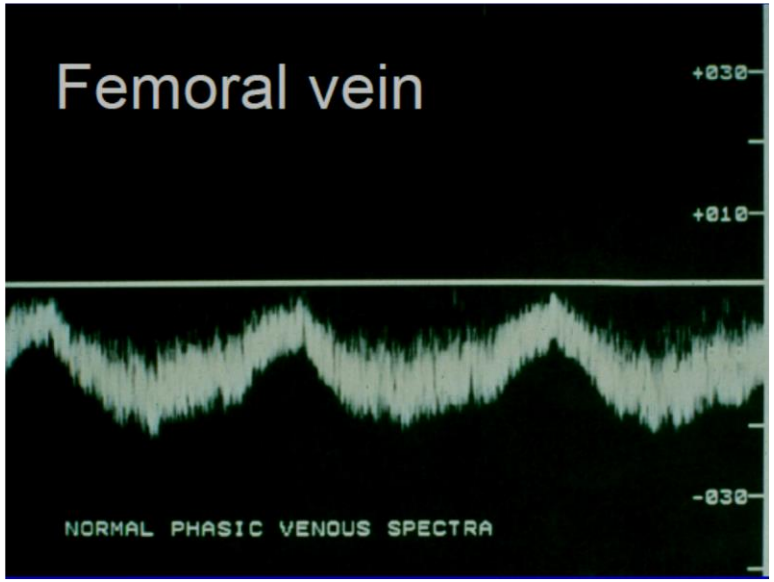

Thrombus
CFA
CFV

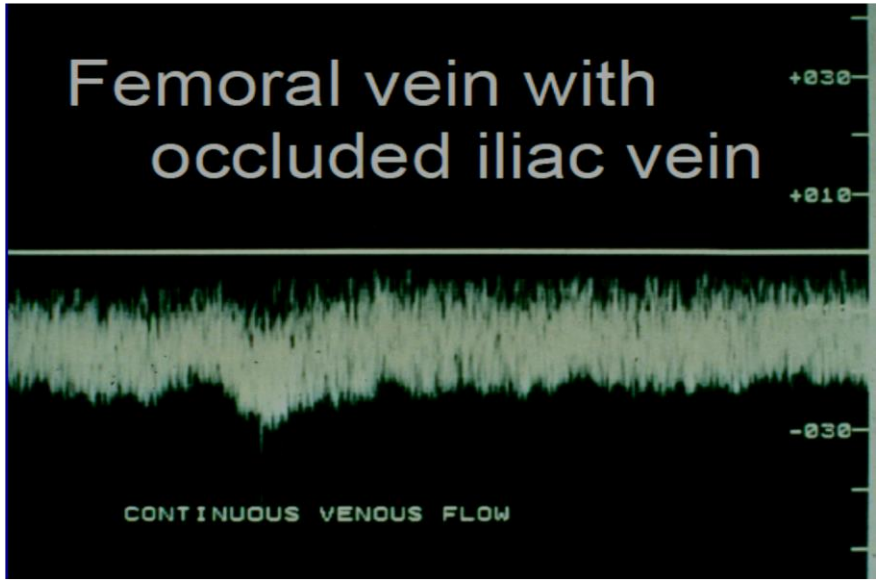
QUANDO LA CUS NON BASTA importanza del flusso











COMPRESSION ULTRASOUND FOR DVT

B-mode Image Features - Acute vs. Chronic DVT

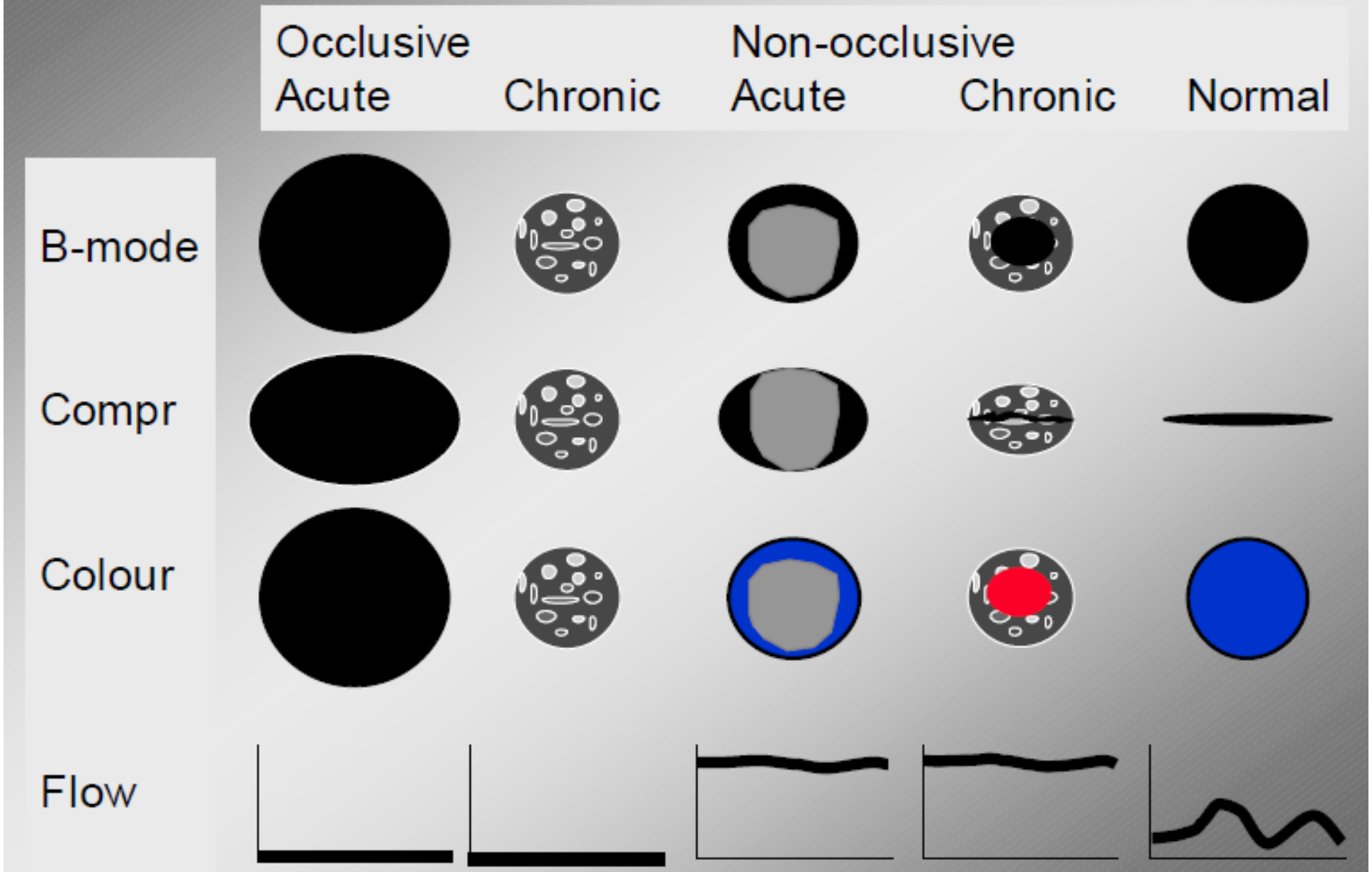
Acute

- Homogeneous, smooth
- Hypoechoic
- Soft,spongy (deforms with compression)
- Vein is dilated
- Free floating tail

Chronic

- Heterogeneous, irregular, synechiae
- Echogenic
- Stiff (not deformable)
- Vein normal or small size
- Thickened vein wall (recanalization)
- Collaterals present

Imaged thrombus



CUS POCO UTILE O SCARSAMENTE APPLICABILE

Vasi iliaci
Cava Inferiore
Vasi addominali
Succlavia sottoclaveare
Vasi intracranici

TROMBOSI ARTO SUPERIORE E VV GIUGULARI

Tronco Brachio -Cefalico

V. Succlavia

M. Piccolo Pettorale

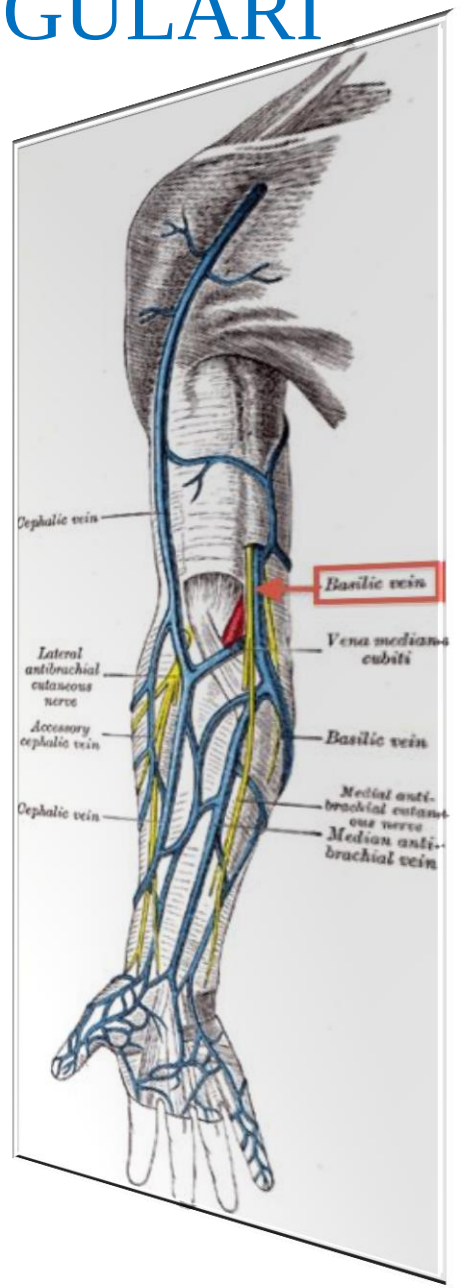
V. Ascellare

V. Cefalica

V. Basilica

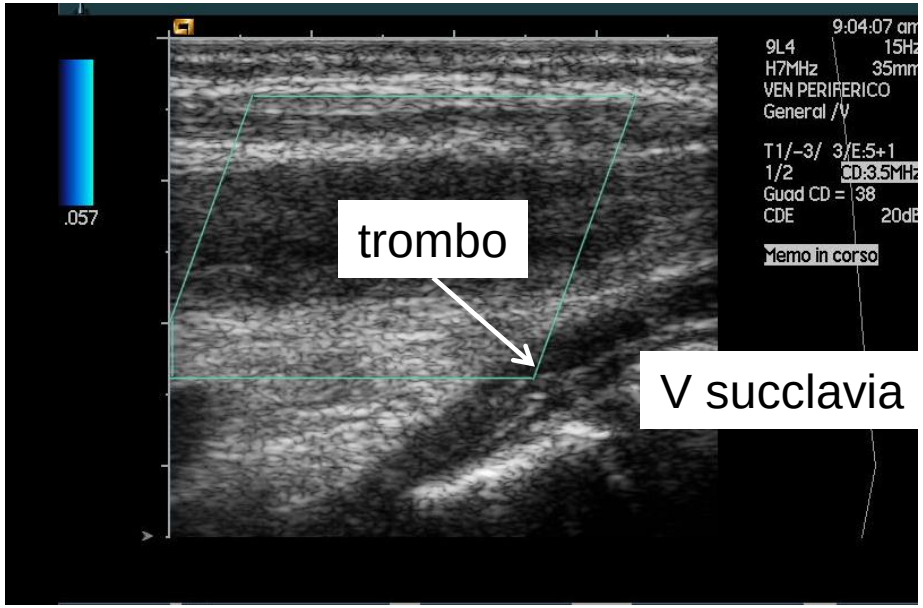
V. Brachiali

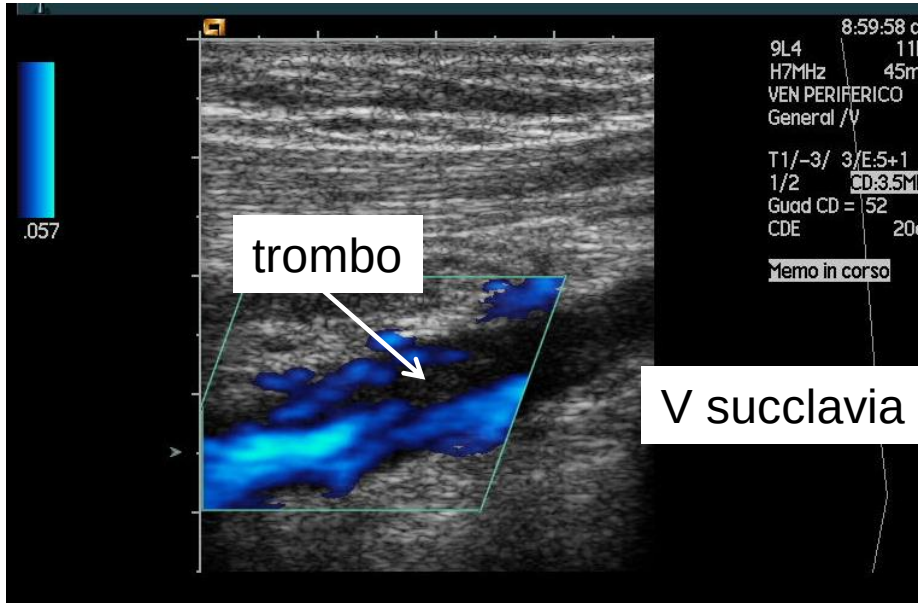
V. Giugulare interna



S. Dello stretto toracico superiore - Traumi - Neoplasie - Cateterismi

TROMBOSI ARTO SUPERIORE TVP/TVS

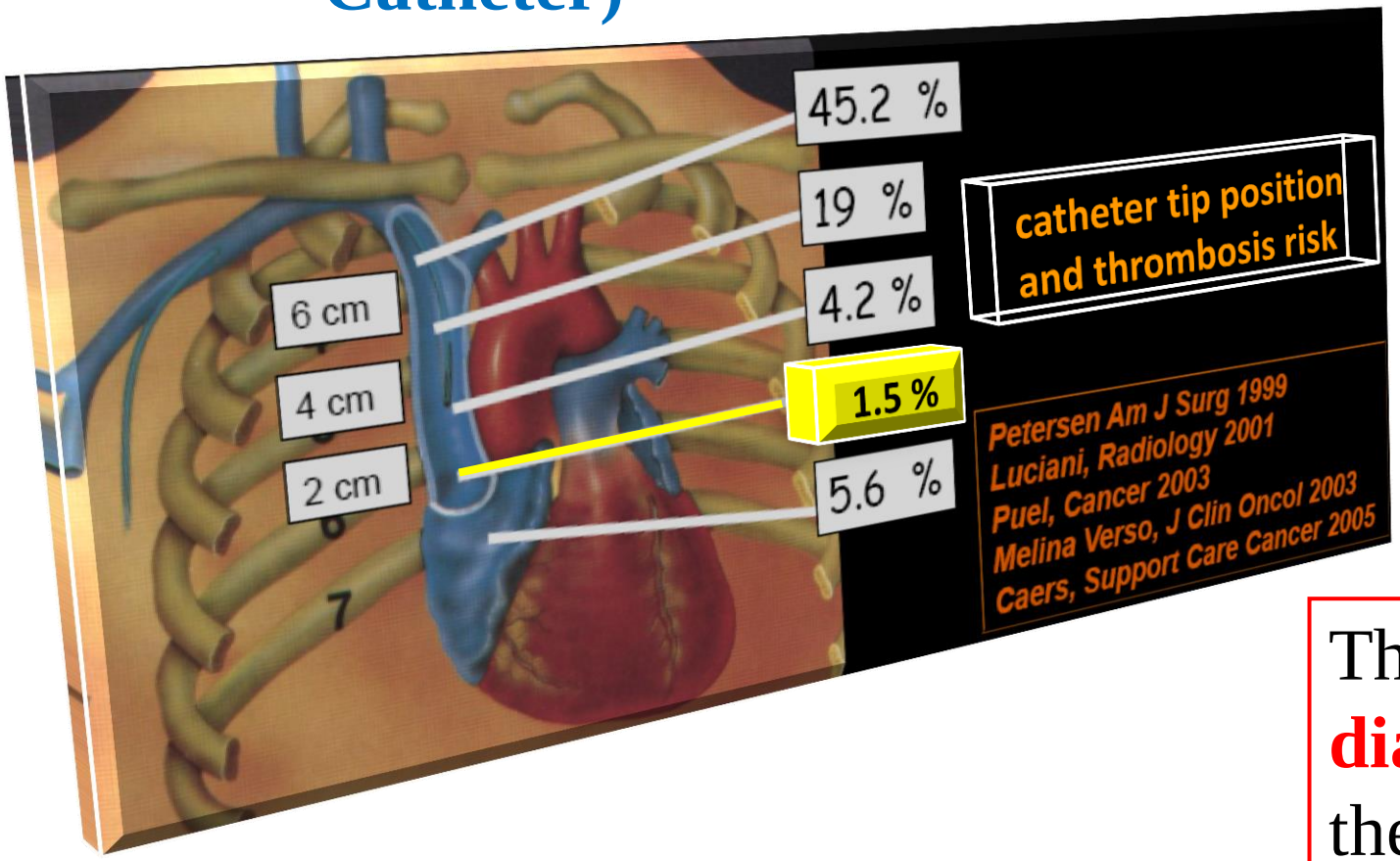




Frequenza progressivamente incrementale

- **Device endovascolari**
- **Pace maker**
- **Emodialisi**
- **Indagini diagnostiche**
- **Tecniche rianimatorie**
- **Terapie oncologiche**

PICC
(Peripherally Inserted Central Catheter)



Venous Thrombosis Related to Peripherally Inserted Central Catheters[1]

Jay R. Grove, MD
William C. Pevec, MD

Index terms: Catheters and catheterization, central venous access • Catheters and catheterization, complications • Thrombosis, venous

JVIR 2000; 11:837–840

Abbreviations: PICC = peripherally inserted central catheter, SVC = superior vena cava

PURPOSE: To determine factors that may lead to venous thrombosis in patients with peripherally inserted central catheters (PICC).

MATERIALS AND METHODS: The medical records of 678 patients with 813 PICCs during 1997 were cross-referenced with all patients receiving venous duplex examinations (1,631) during the same time period. Multiple factors were examined in the patients with catheter-related thrombosis, including diagnosis, solution infused, catheter tip position, vein accessed, and catheter diameter.

RESULTS: Nurses placed 269 PICCs with 12 venous thromboses, for a rate of 4.5%. Radiologists placed 544 PICCs with 20 venous thromboses, for a rate of 3.7%. There was no significant difference in these rates. The overall thrombosis rate was 3.9%. After multivariate analysis, only catheter diameter remained significant. There were no thromboses in catheters 3 F or smaller. The thrombosis rate was 1% for 4-F catheters, 6.6% for 5-F catheters, and 9.8% for 6-F catheters.

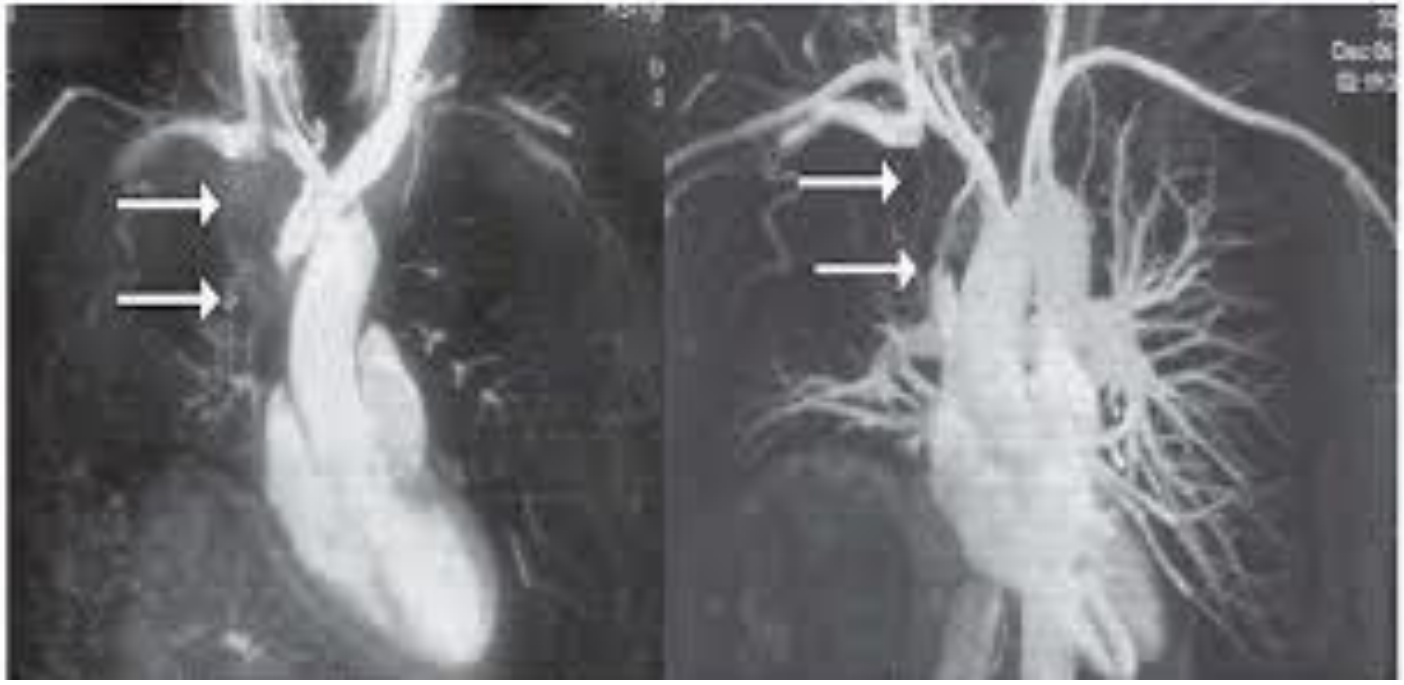
CONCLUSIONS: Thrombosis rate associated with PICCs was low (3.9%). The smallest acceptable catheter diameter should be used to decrease the incidence of venous thrombosis.

The **smallest acceptable catheter diameter** should be used to decrease the incidence of venous thrombosis

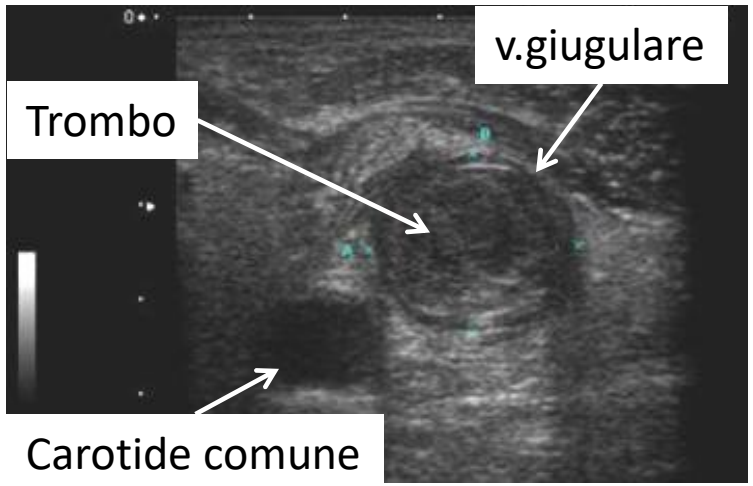
VCS

Flebografia

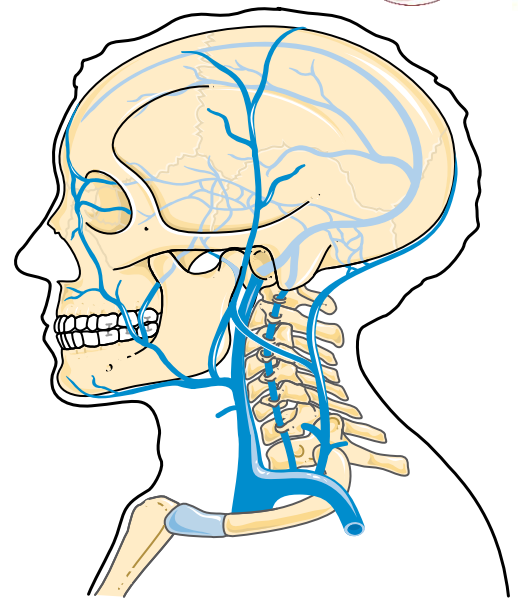
Angio RM

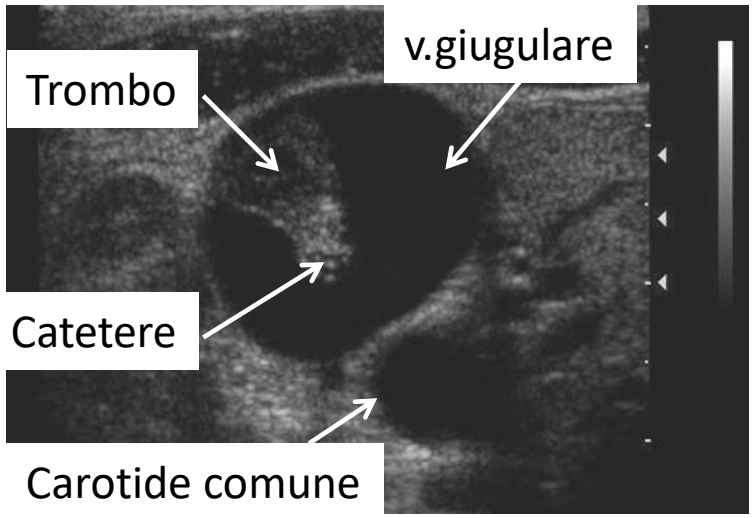


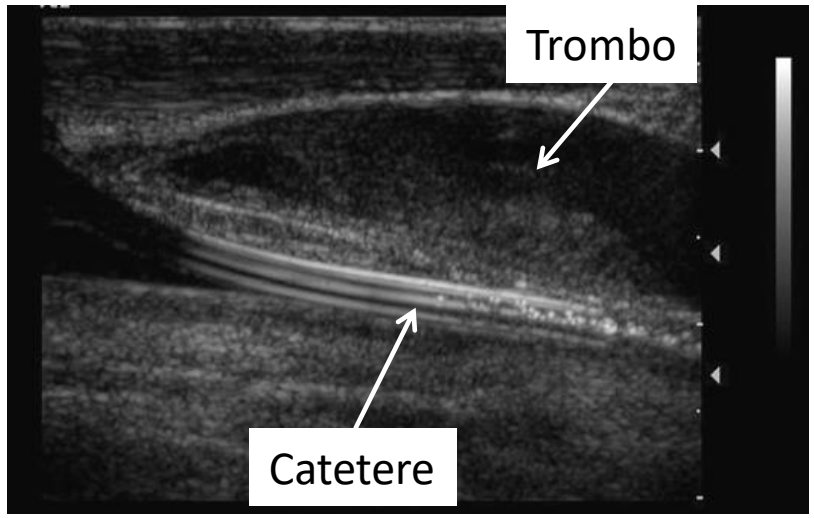
TROMBOSI VASI DEL COLLO
TVP GIUGULARE



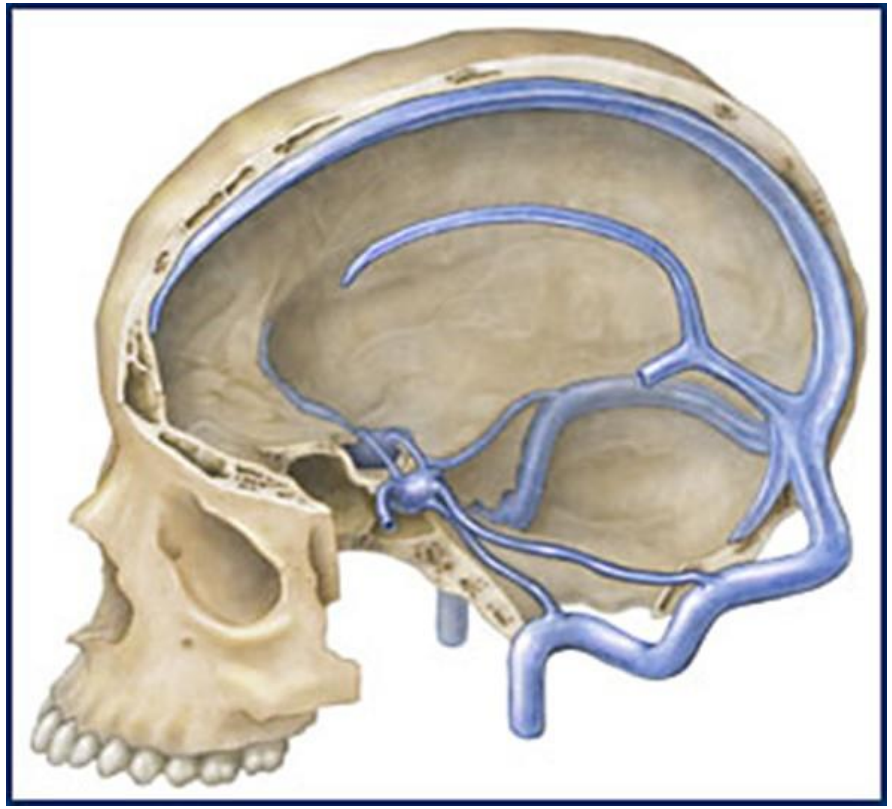
Emodialisi
Indagini diagnostiche
Tecniche rianimatorie
Terapie oncologiche



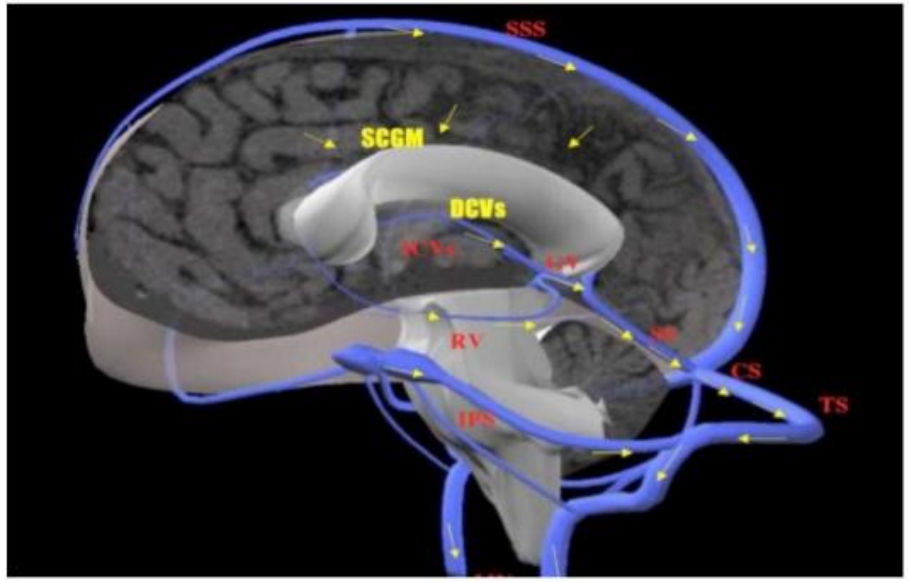




TROMBOSI VASI INTRACRANICI



Emodinamica venosa cerebrale in soggetti sani:
il flusso è monodirezionale ovvero dalle vene cerebrali profonde verso i seni della dura madre da cui si dirige verso le principali vie di drenaggio extracranico



Imaging del parenchima

TC senza / con MDC

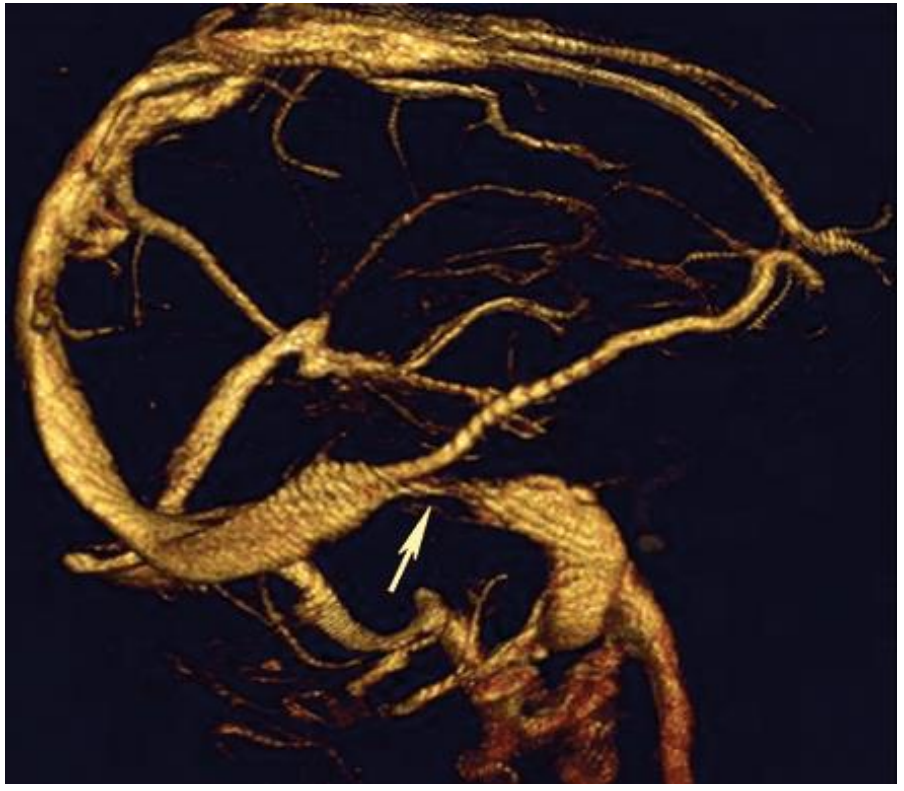
RM (standard spin echo T_1-T_2 pesata, echo-planar T_2^* pesata, pesata in diffusione)

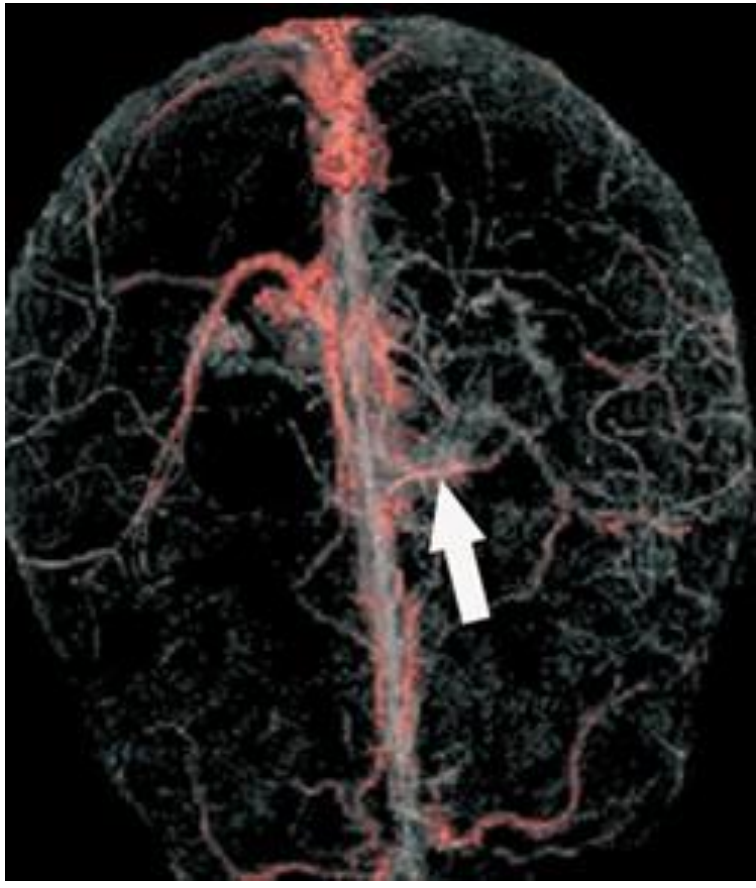
Imaging dei seni e delle vene cerebrali

Venografia RM

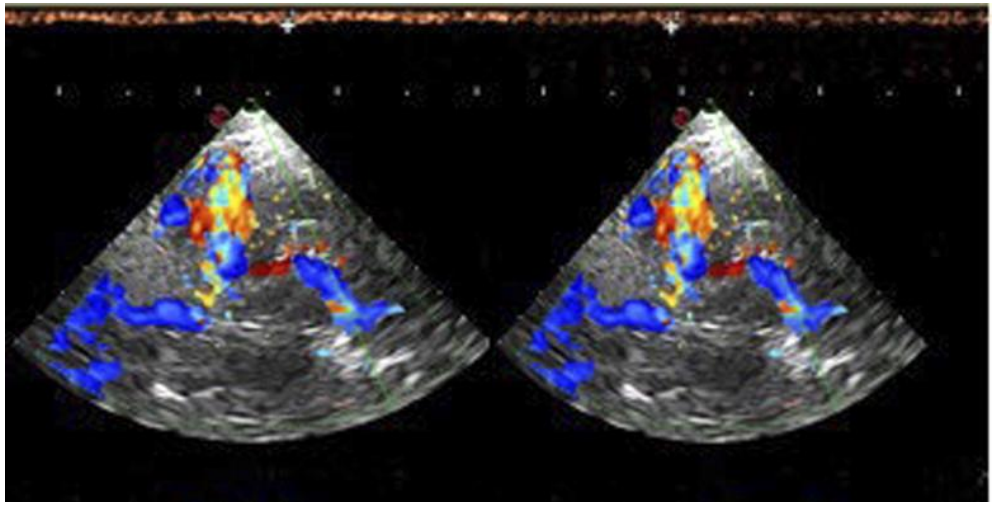
Venografia TC

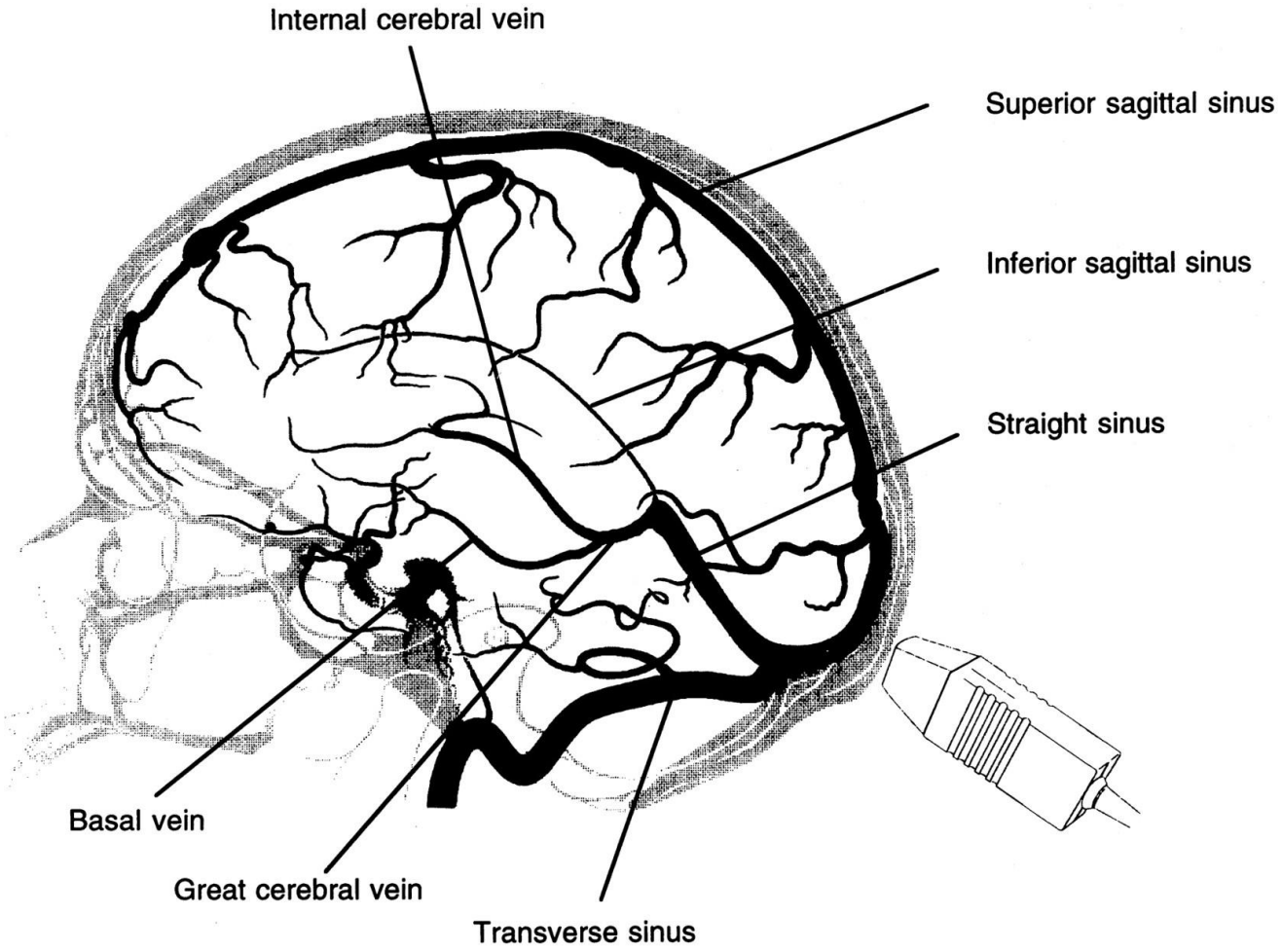
Angiografia

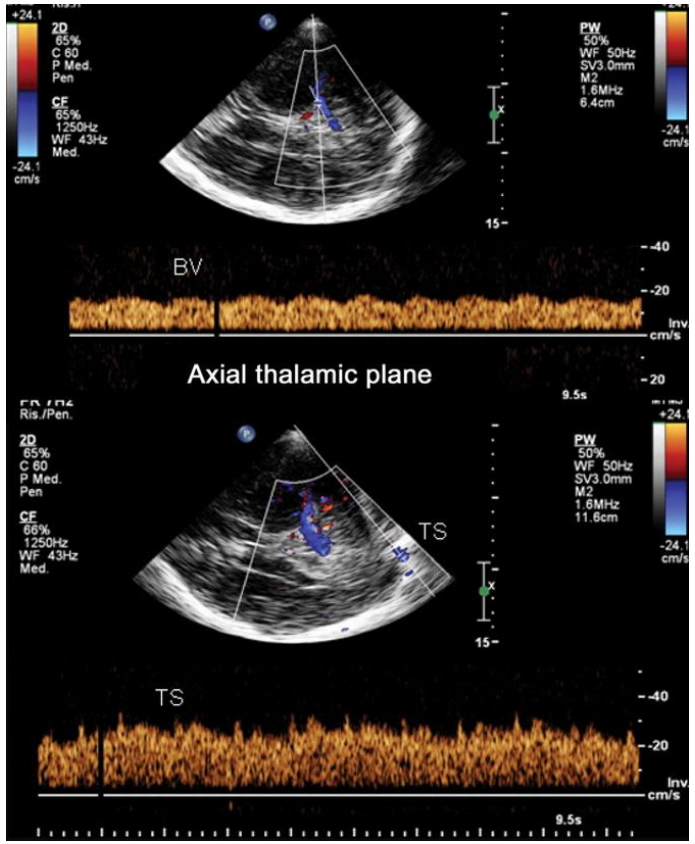




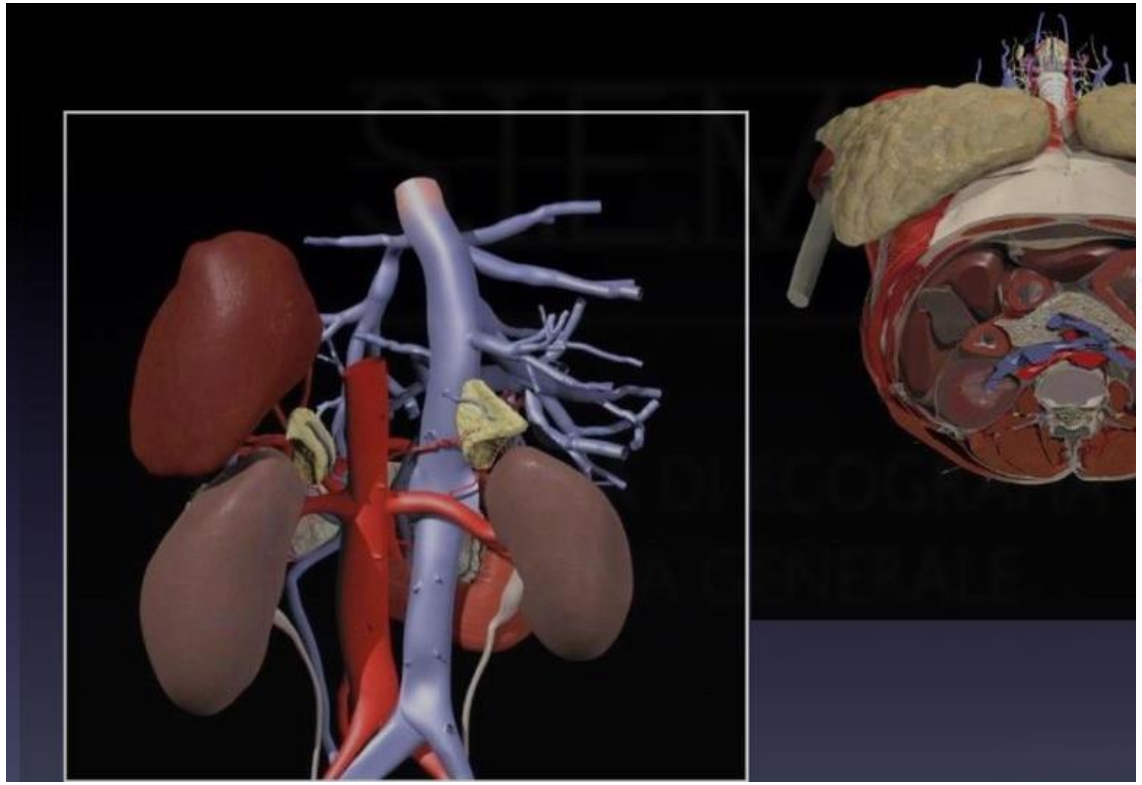
ECO-COLOR – DOPPLER TRANSCRANICO

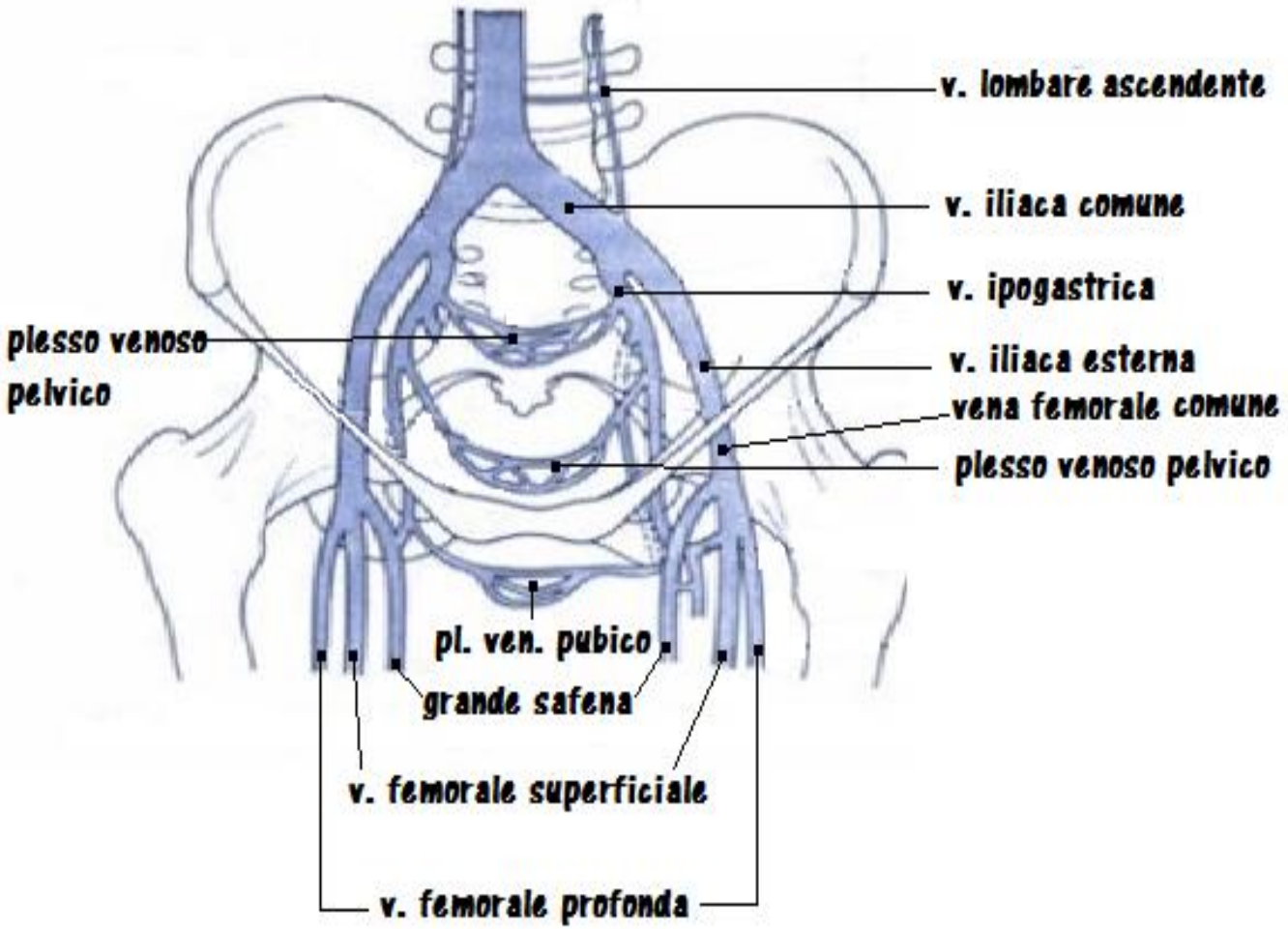






TROMBOSI VASI VISCERALI

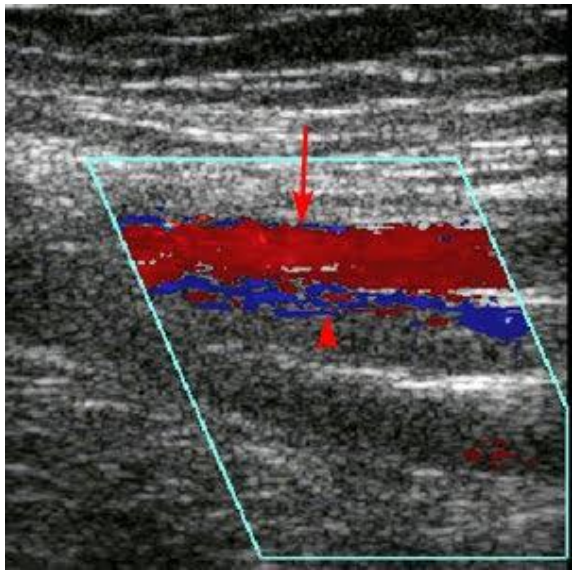


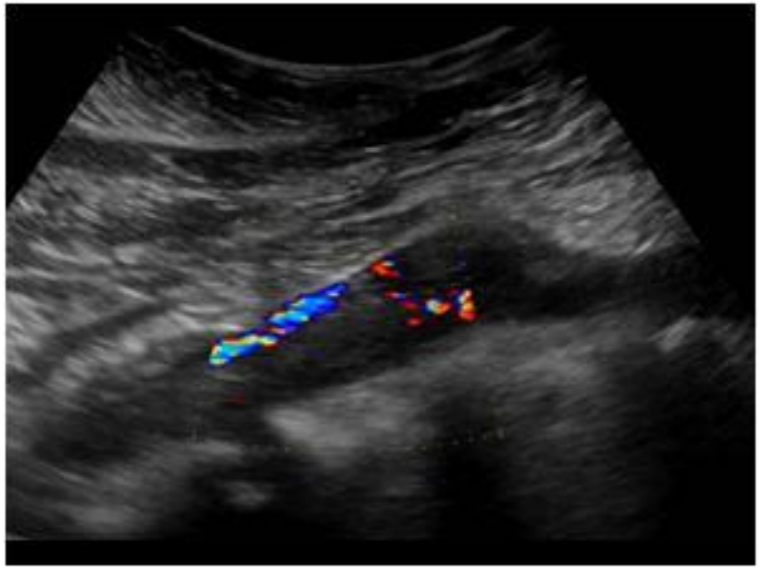


VCI
Vena porta
Plessi pelvici

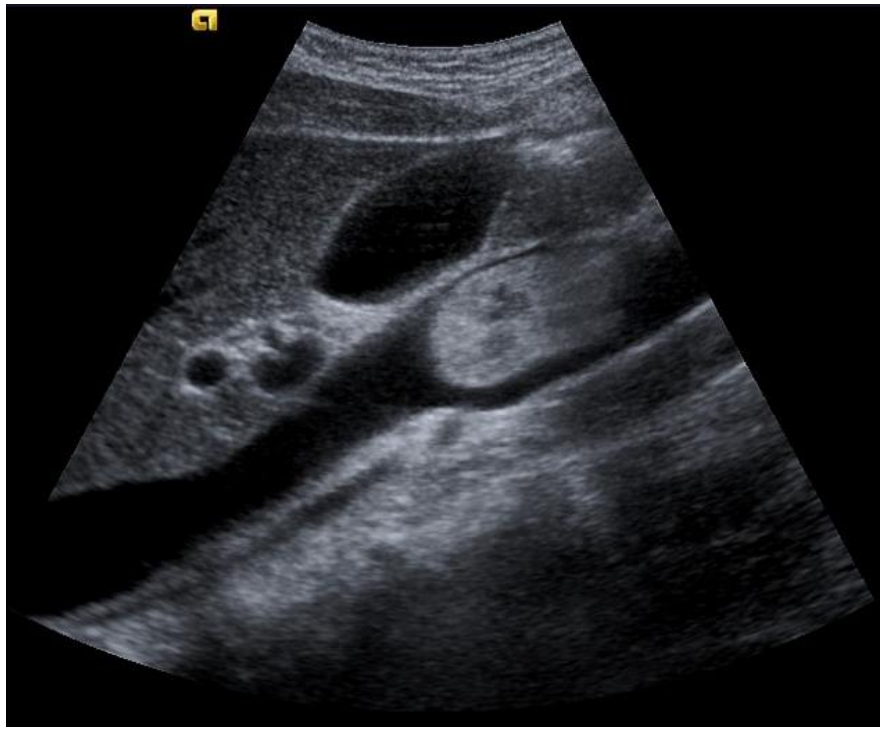
VCI

Eco-color-Doppler





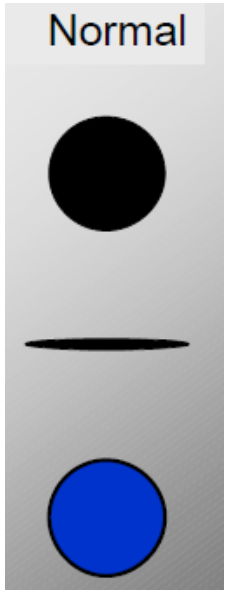
Estensione iliaca

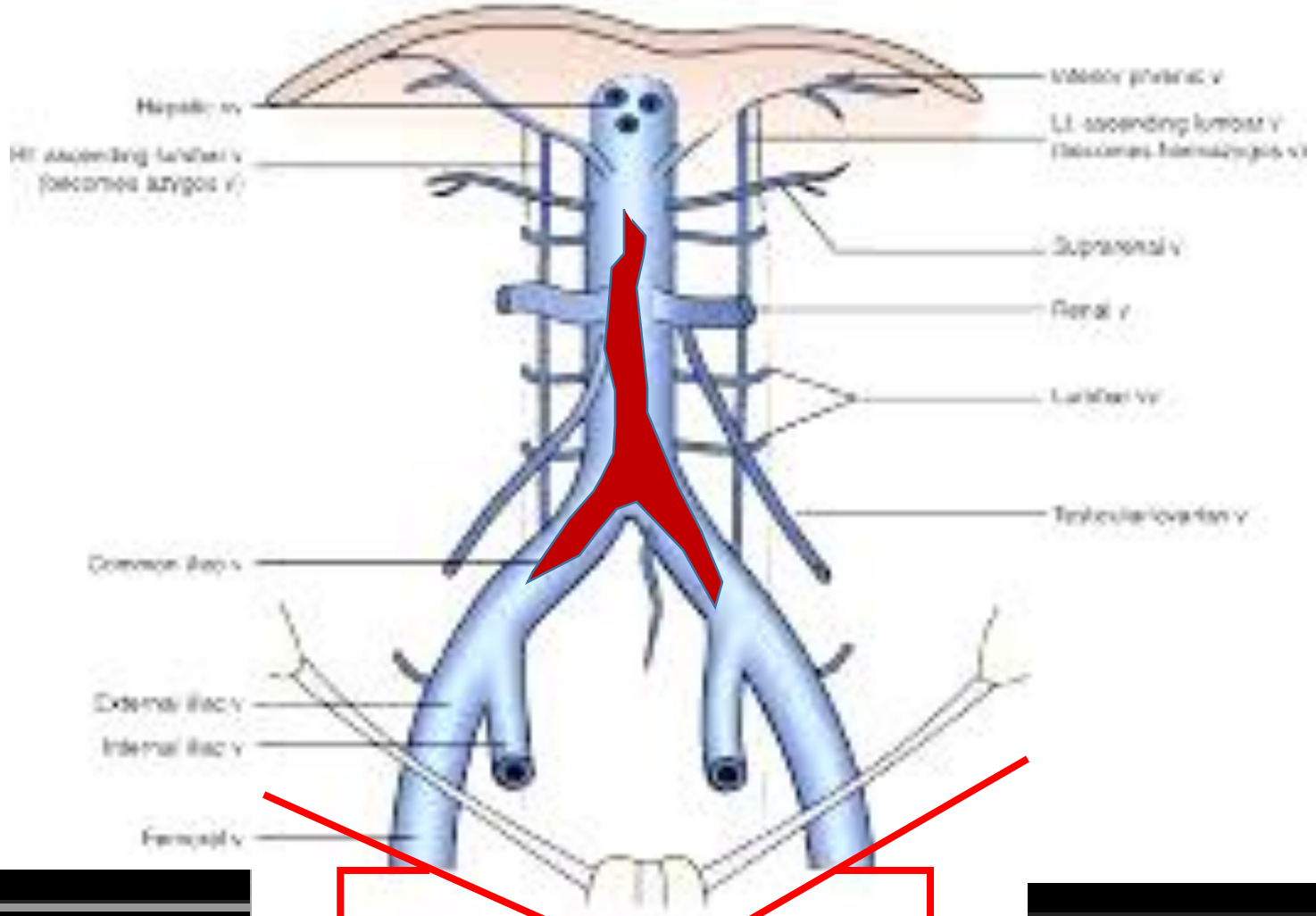


Trombosi neoplastica

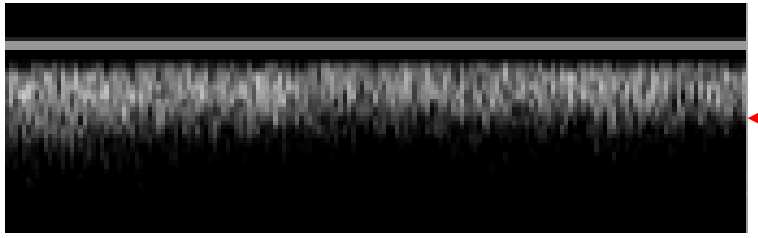
QUANDO LA CUS NON BASTA importanza del flusso

CUS

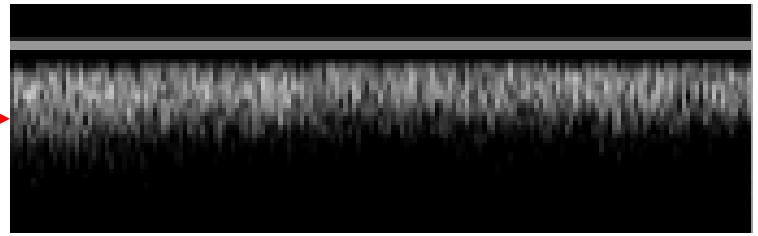




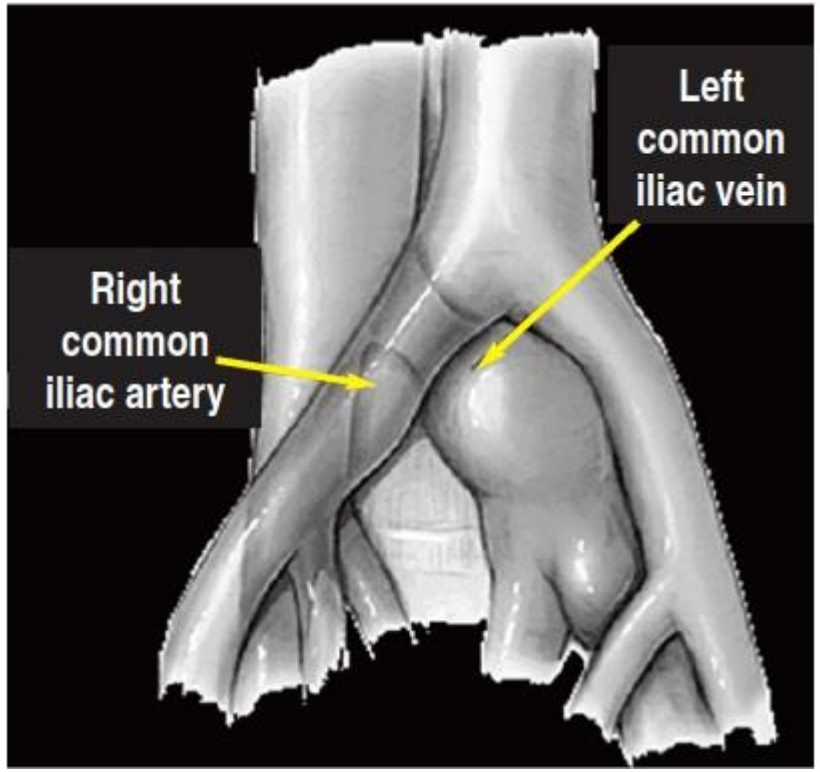
CUS



FLUSSO



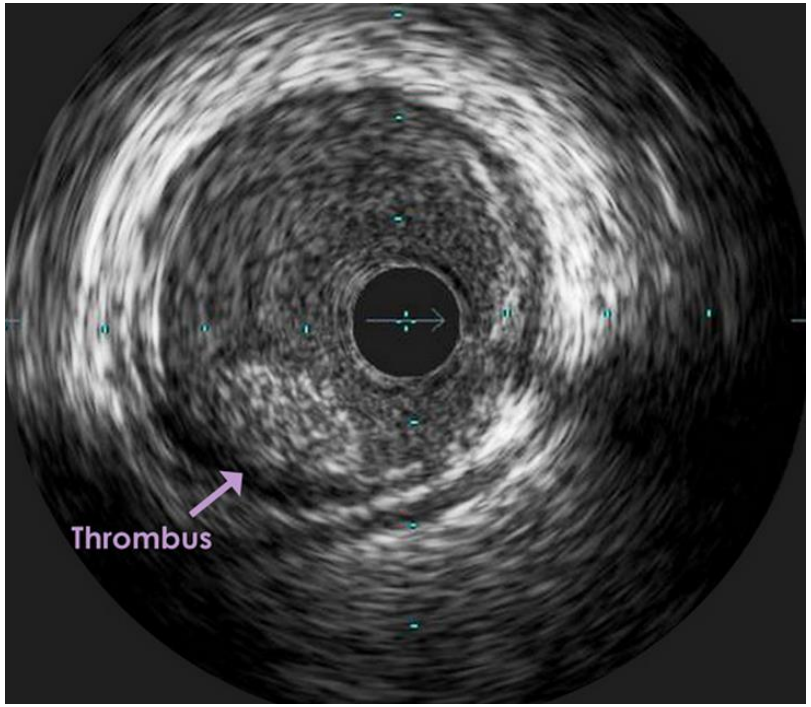
MAY- TURNER SYNDROME



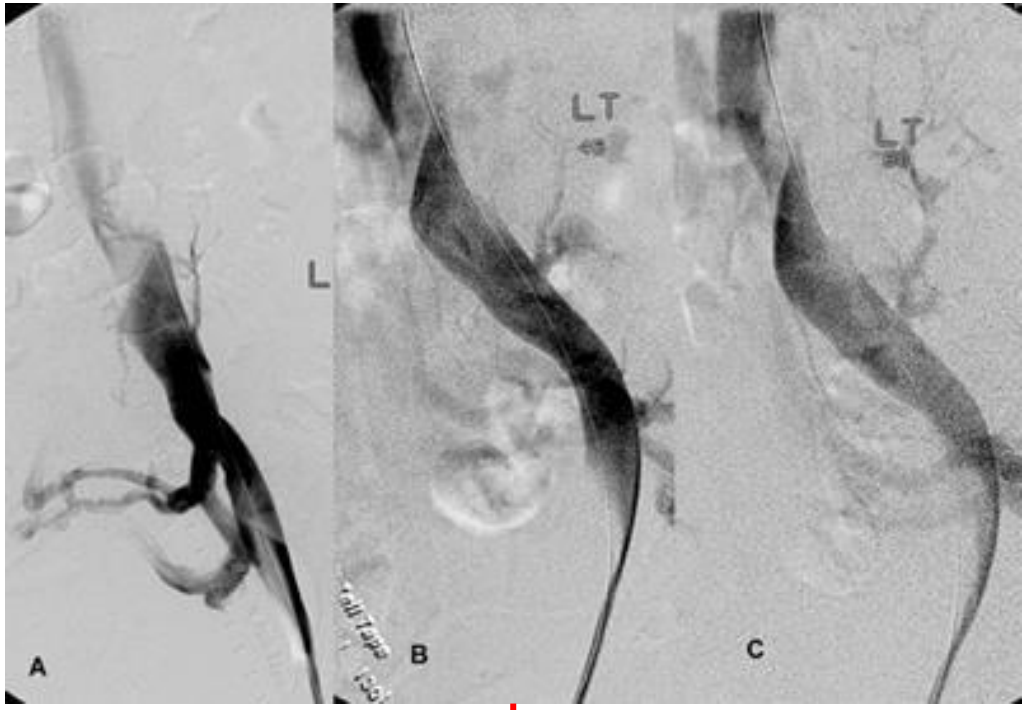
Angio RM

OSTRUZIONE VENOSA CRONICA

IVUS



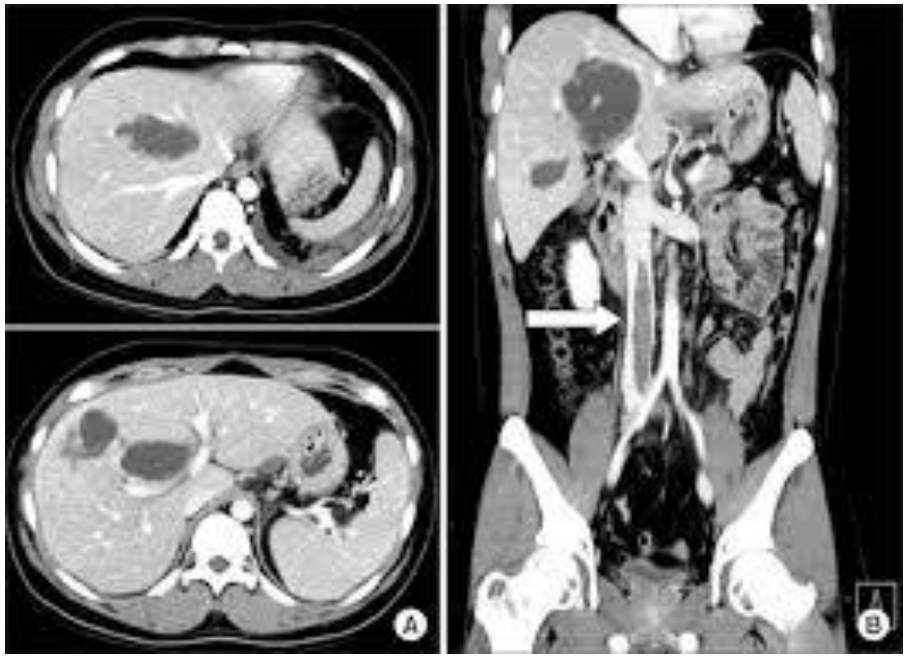
FLEBOGRAFIA



TRATTAMENTO ENDOVASCOLARE

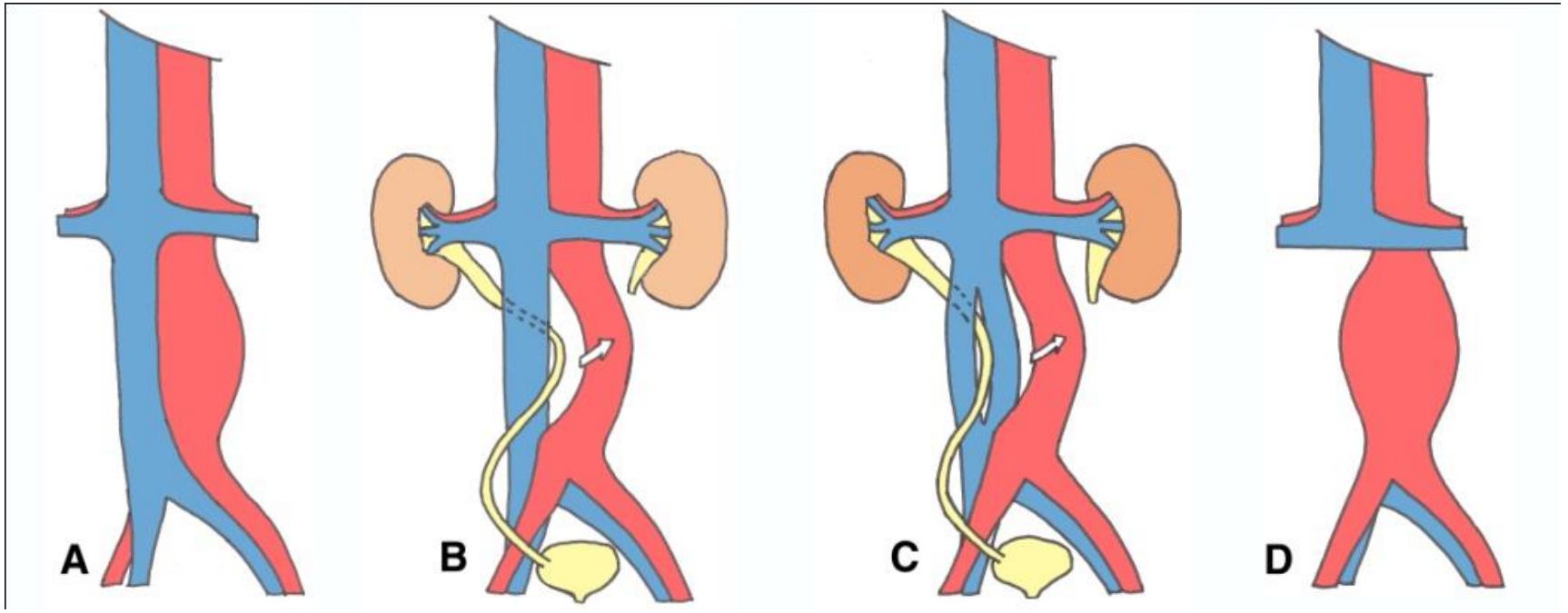
Angio TC Angio RM

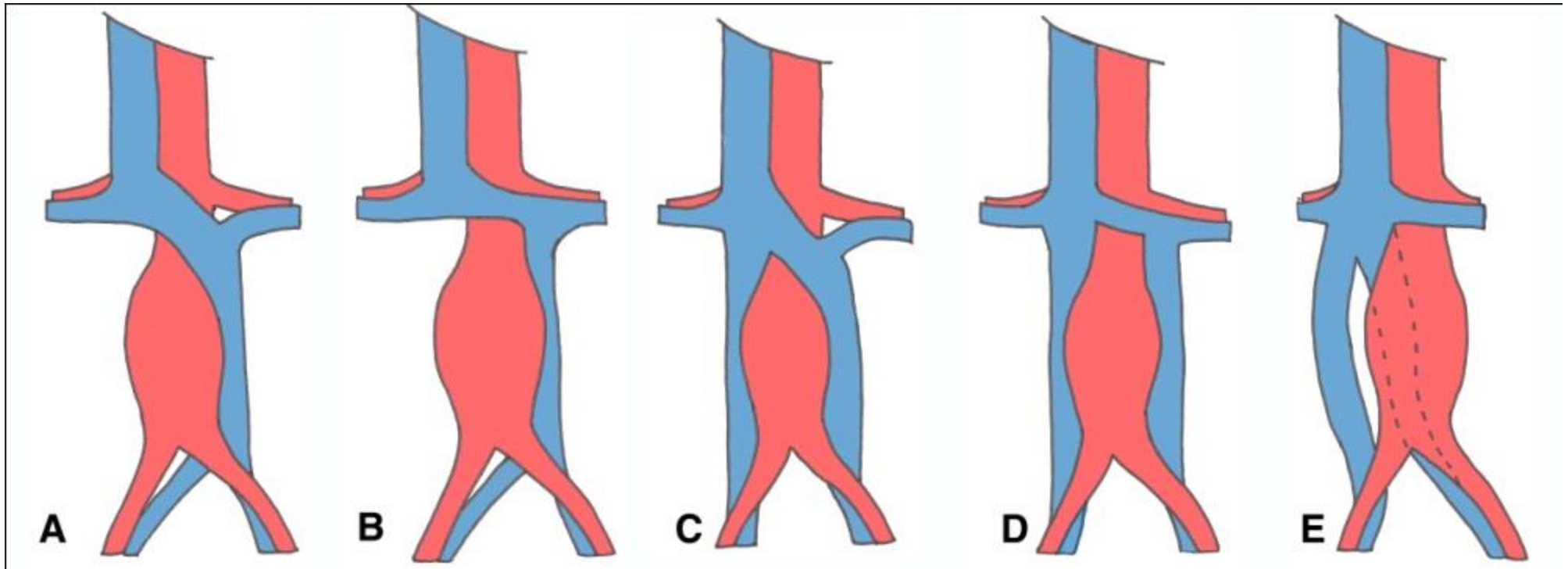
Filtro cavale

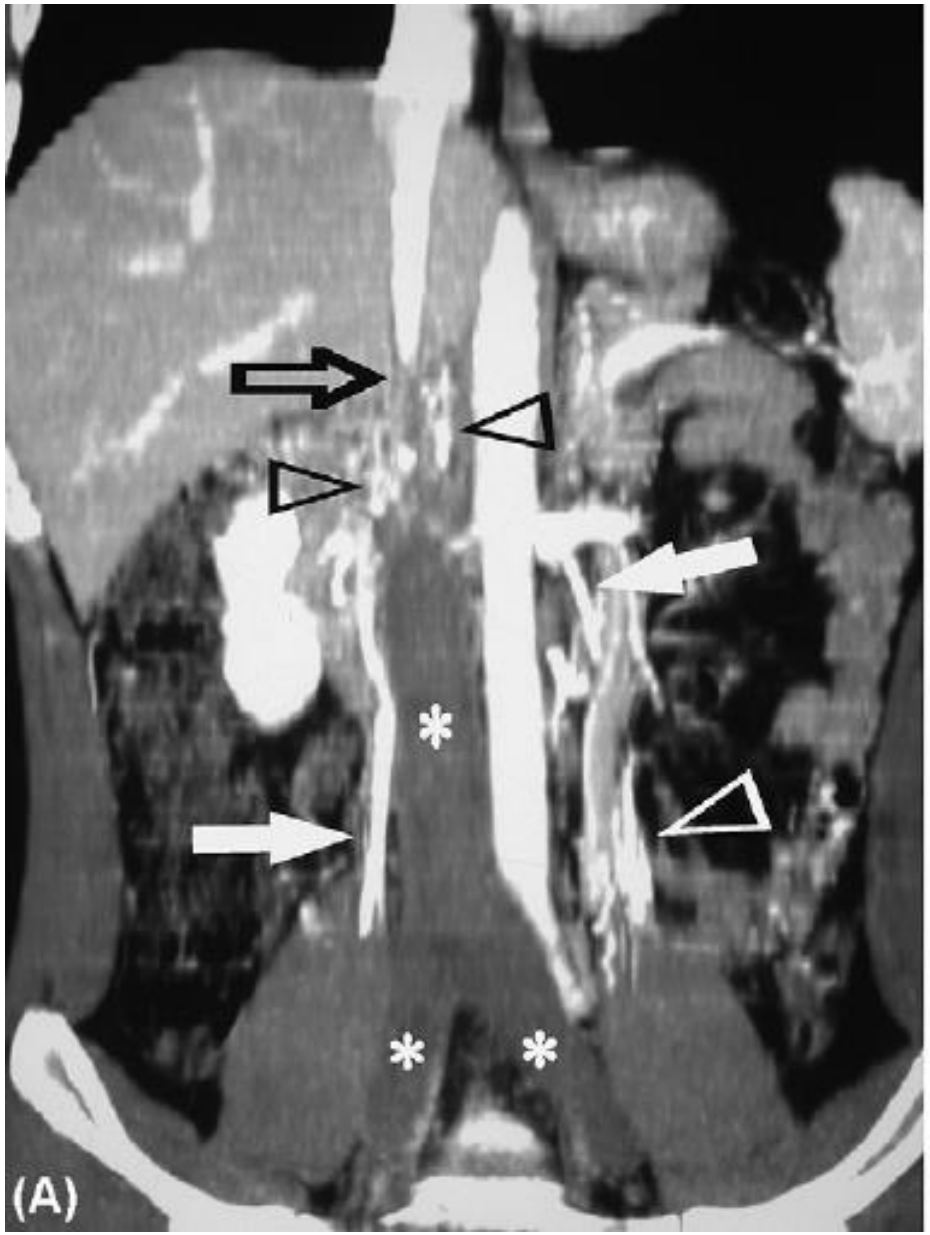


Trauma

Trombosi renale bilaterale
in sindrome nefrosica


A
B
C
D


A
B
C
D
E

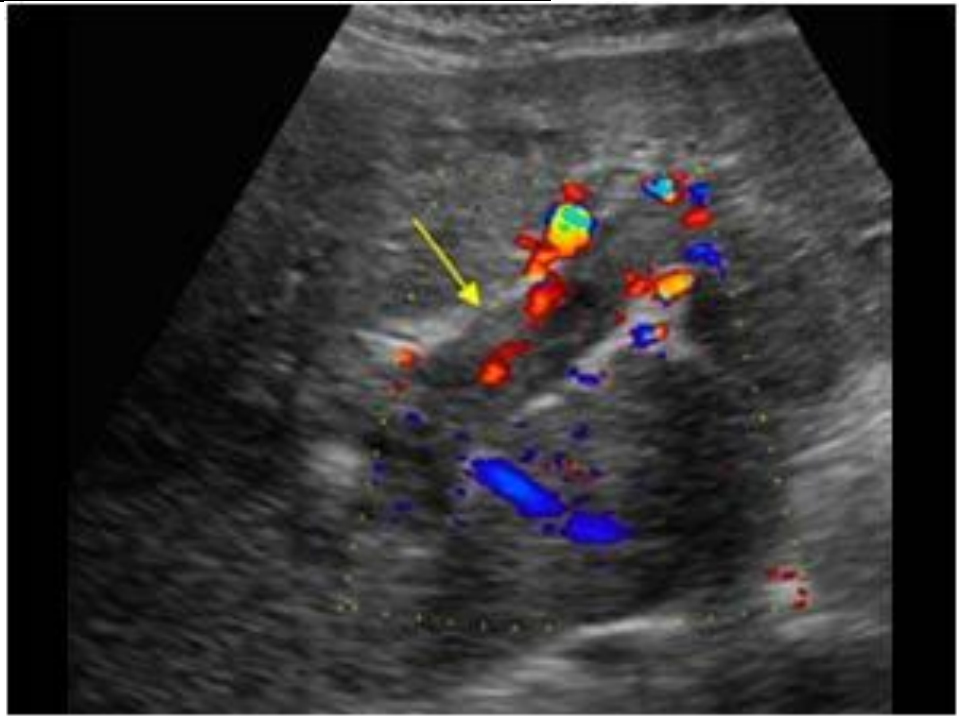


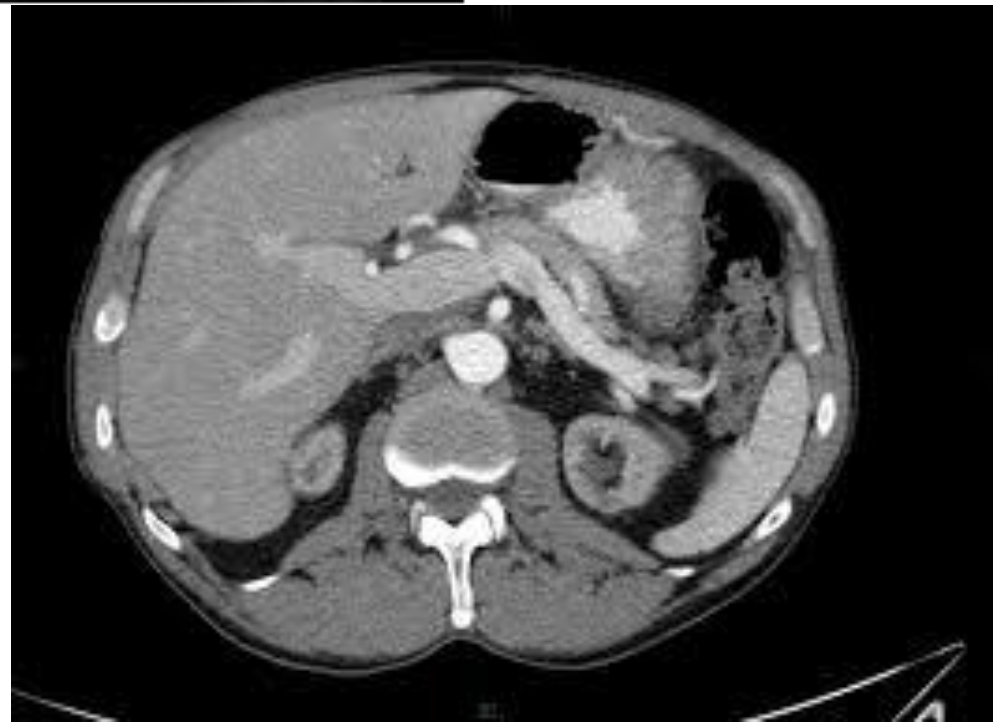
Angio RM

Flebografia

Trombosi
Spleno portale
Angio TC

Trombosi
portale
Eco-Doppler





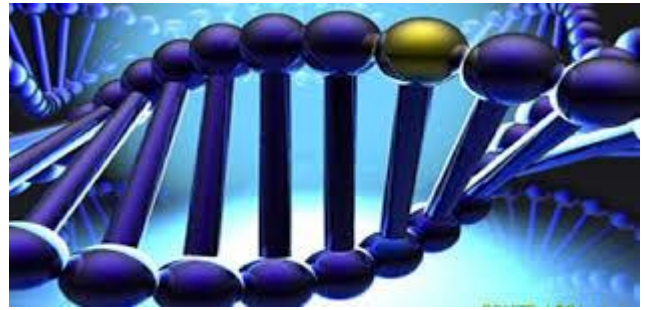
Trombosi vena ovarica sx

RM assiale: trombosi vena ovarica dx

IMPLICAZIONI CLINICHE

Baxter EJ, Scott LM, Campbell PJ, et al. Acquired mutation of the tyrosine kinase JAK2 in human **myeloproliferative disorders**. Lancet 2005;365:1054-1061.

MUTAZIONE V617F JAK2



Colaizzo D, Amitrano L, Tiscia G.L., et al. The JAK2 V617F mutation frequently occurs in patients with **portal and mesenteric venuos thrombosis**. J Thromb Haemost 2007;5:55-61.

De Stefano V, Fiorini A, Rossi E, et al. Incidence of JAK2 V617F mutation among patients with **splanchnic or cerebral vein thrombosis** and without overt chronic myeloproliferative disorders. J Thromb Haemost 2007;5:708-714.

Pardanani A, Lasho TL, Hussein K, et al. JAK2V617F mutation screening as part of hypercoagulable work-up in the absence of splanchnic venous thrombosis or overt **myeloproliferative neoplasm**: assessment of value in a series of 664 consecutive patients. Mayo Clin Proc 2008;83:457-459.

CONCLUSIONI

Ampia possibilità di diagnosi strumentale di sede

- Eco-color-Doppler Transcranico
- IVUS
- TC
- MR
- Angio TC
- Angio RM
- Flebografia

Tutte le trombosi venose profonde sono potenzialmente emboligene

Considerare le «sedi atipiche» in caso di embolia polmonare sine causa

TROMBOSI VENOSA DEGLI ARTI SUPERIORI E INTRADDOMINALI

Leonardo Aluigi
Resp. Angiologia

ARRIVEDERCI

GVM
CARE & RESEARCH

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