Comment je réponds au clinicien qui me demande de classer (selon ISSVA) une tache de naissance?

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Les angiomes

ISSVA classification for vascular anomalies ©

(Approved at the 20th ISSVA Workshop, Melbourne, April 2014)

Overview table

Vascular anomalies				
Vascular tumors	**Vascular malformations**			
	Simple	**Combined °**	**of major named vessels**	**associated with other anomalies**
Benign Locally aggressive or borderline Malignant	Capillary malformations Lymphatic malformations Venous malformations Arteriovenous malformations* Arteriovenous fistula*	CVM, CLM LVM, CLVM CAVM* CLAVM* others	See details	See list

° defined as two or more vascular malformations found in one lesion

* high-flow lesions

are imaging studies helpful for
diagnosis of vascular malformations?

in the vast majority : NO

in the vast majority : NO

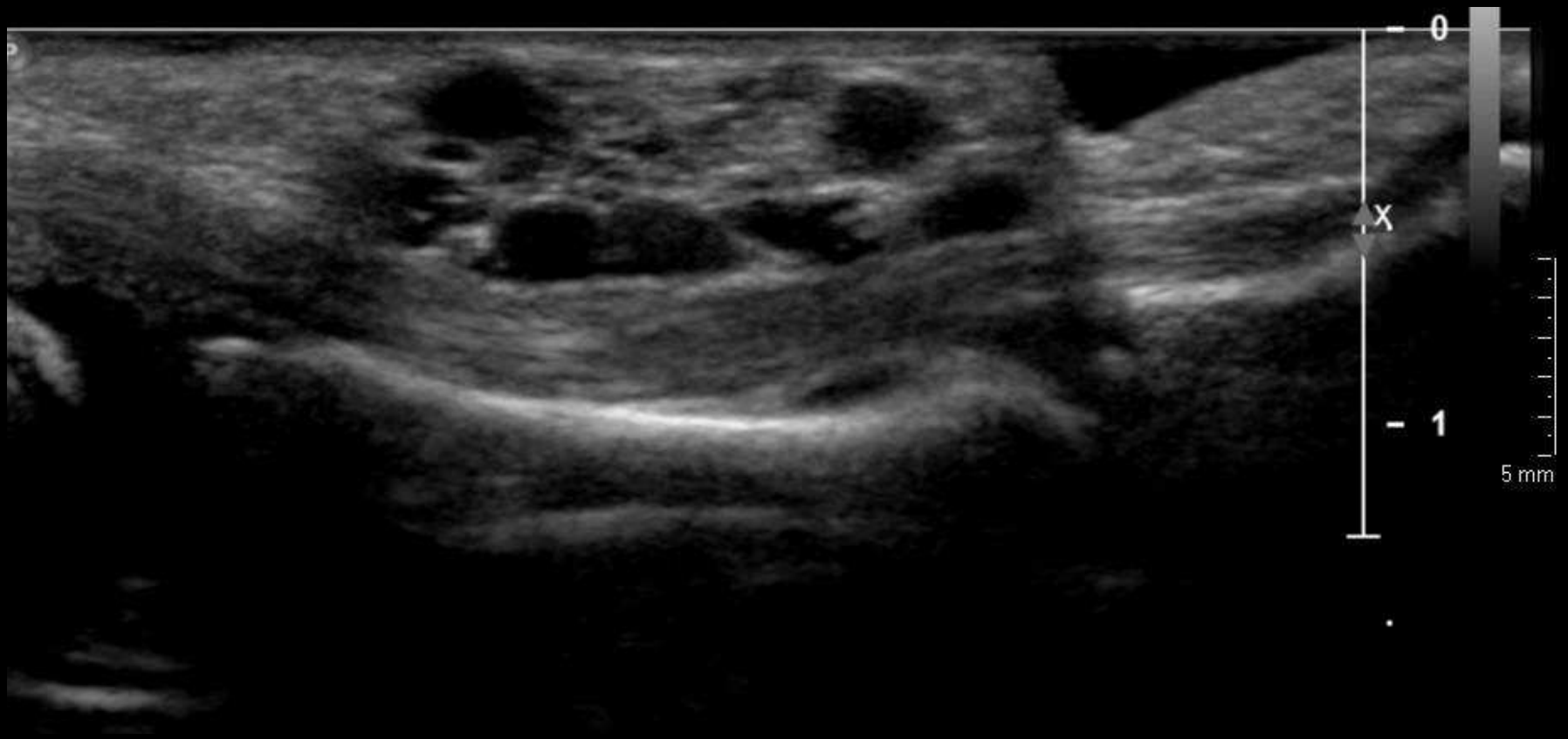
→ VM

caveats : differential diagnosis

- venous malformation ?
- lymphatic malformation ?

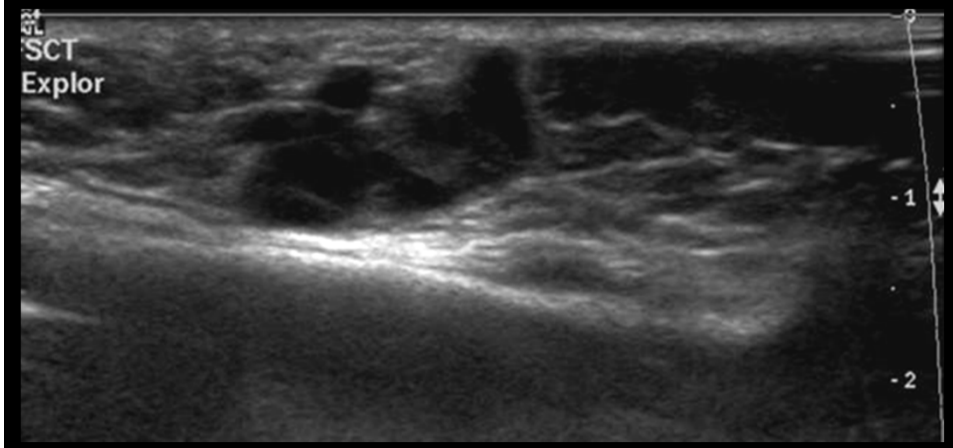
the radiologist is not always able to answer the question !

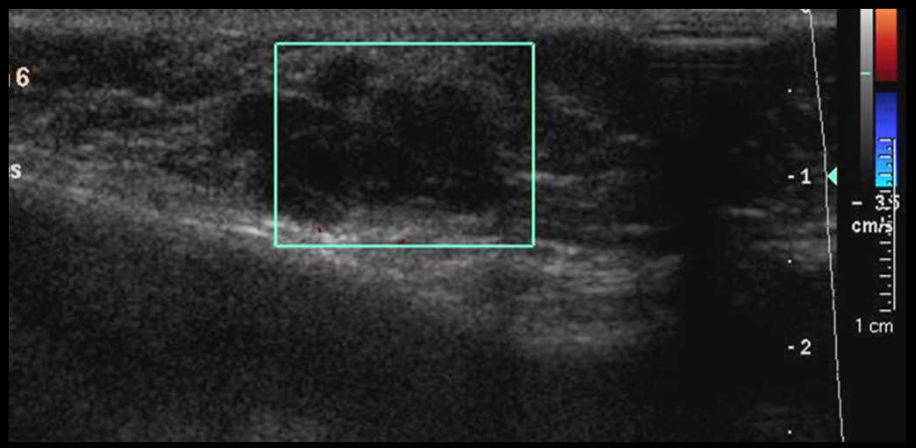
LM ? - VM ?



VM (finger)

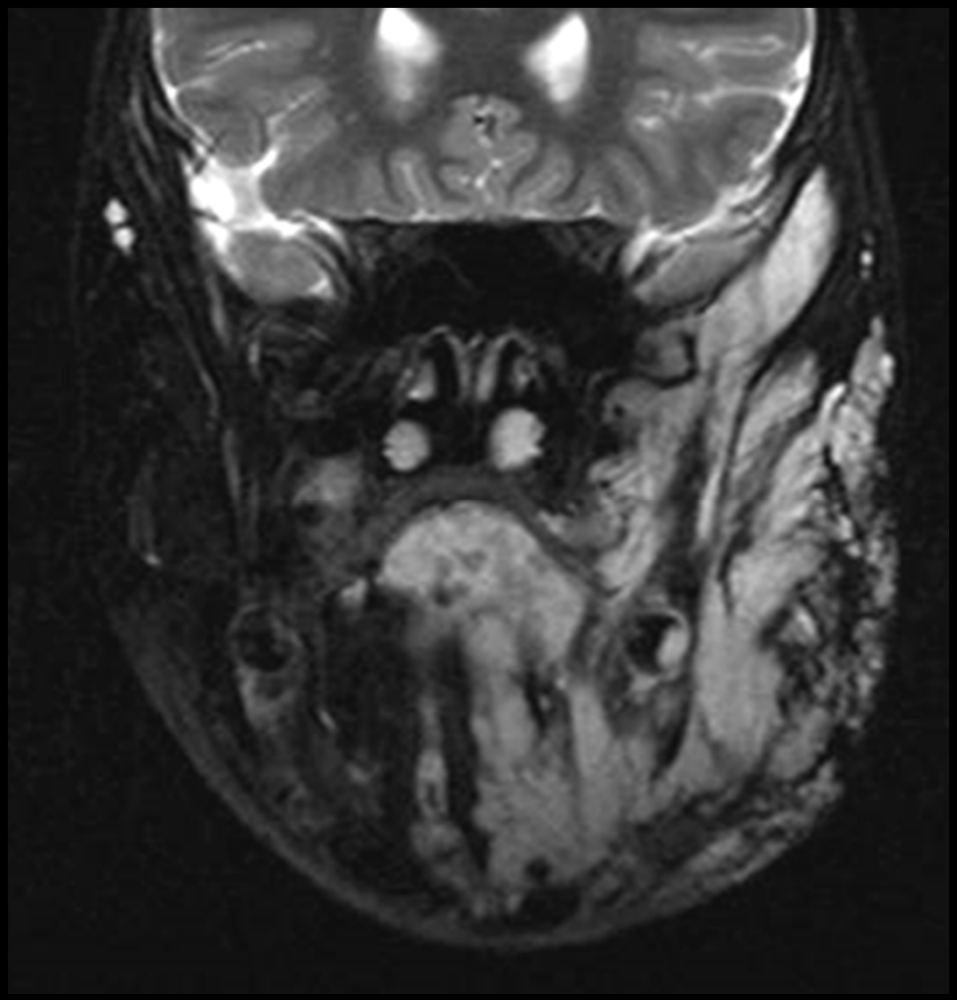
LM ? - VM ?





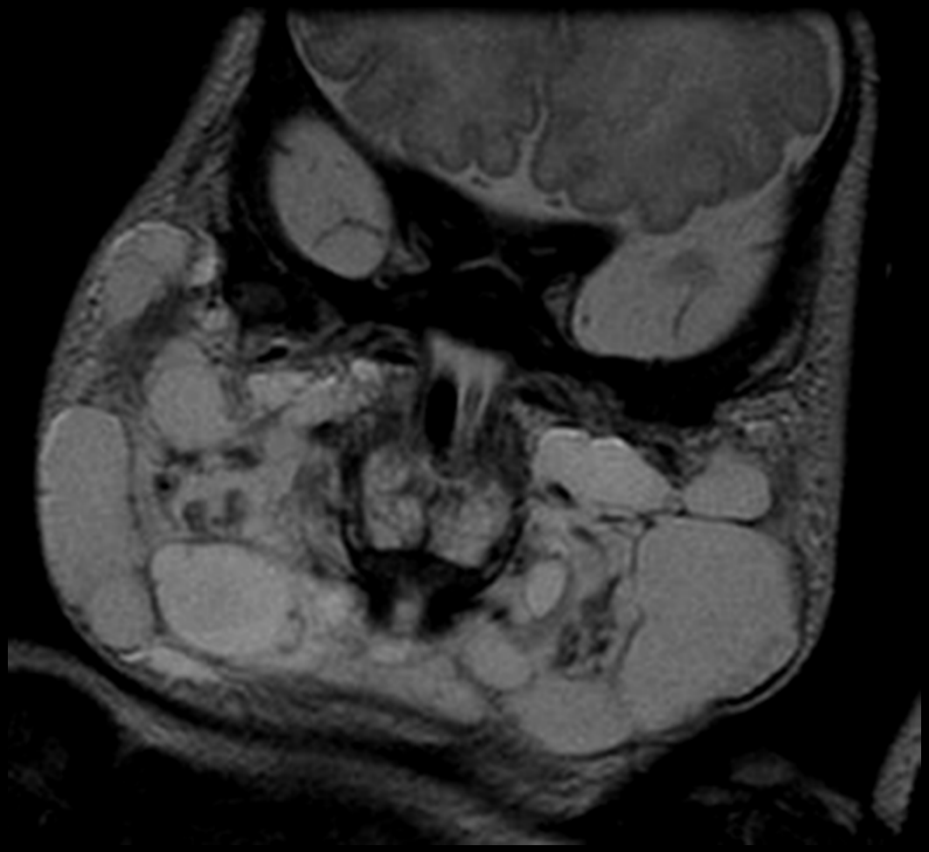
LM (leg)

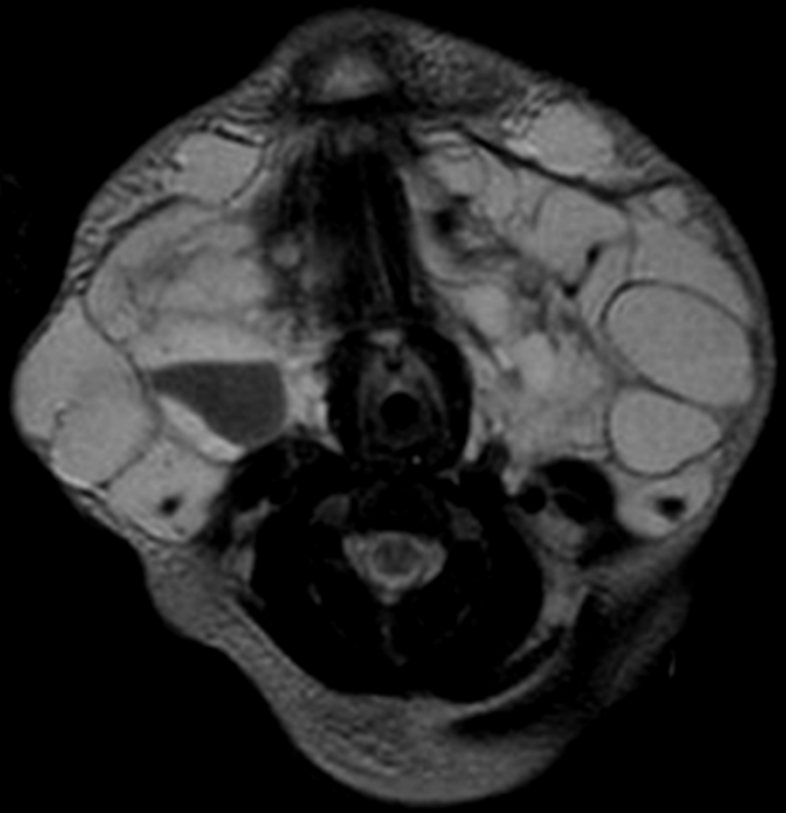
LM ? - VM ?



VM

LM ? - VM ?





LM

VM / LM: differential diagnosis some clues

VM

- cyst-like
- channels
- draining vein(s)
- phlebolith(s)
- very slow flow
- filling during compression/ decompression

VM / LM: differential diagnosis
some clues

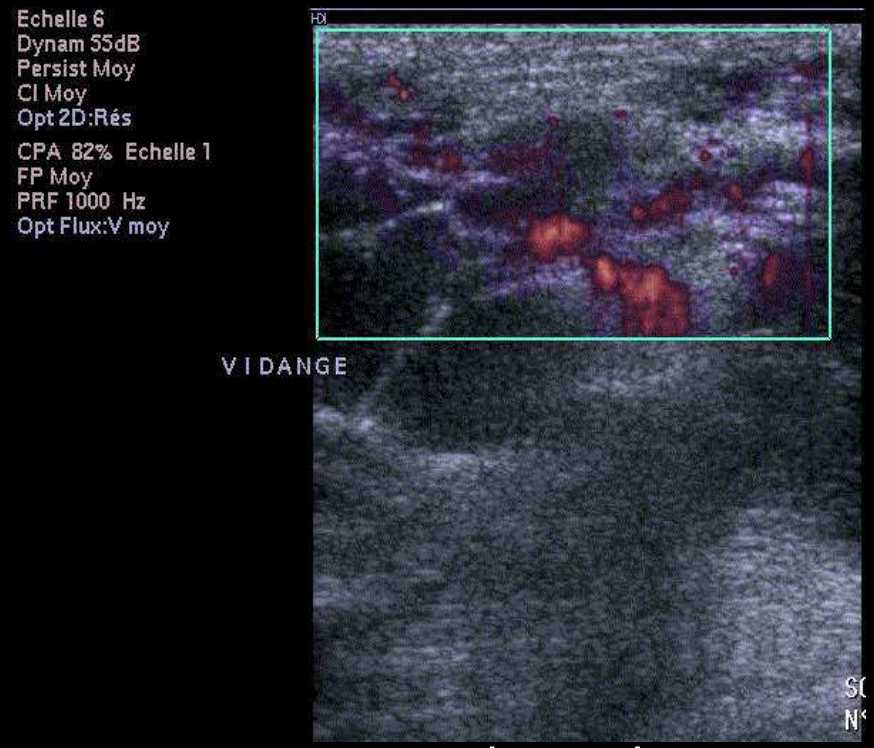
VM

- cyst-like
- channels
- draining vein(s)
- phlebolith(s)
- very slow flow
- filling during compression/ decompression

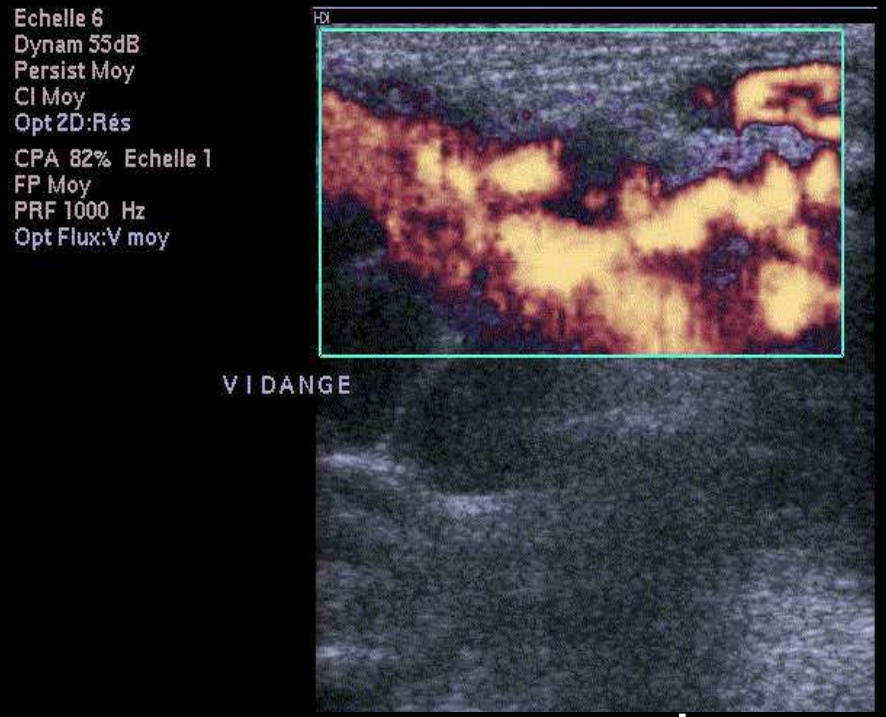
LM

- variable sized cyst(s)
- frequent fluid/fluid (debris) level (hemorrhage)
- no flow into cyst
- vessels in septa
- not compressible

doubtful cases : Doppler US



at rest



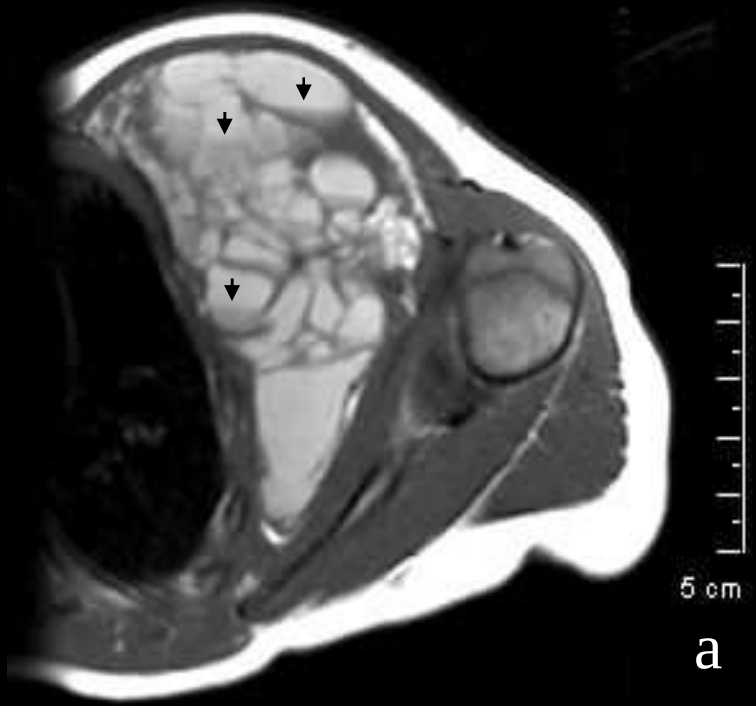
compression

venous malformation

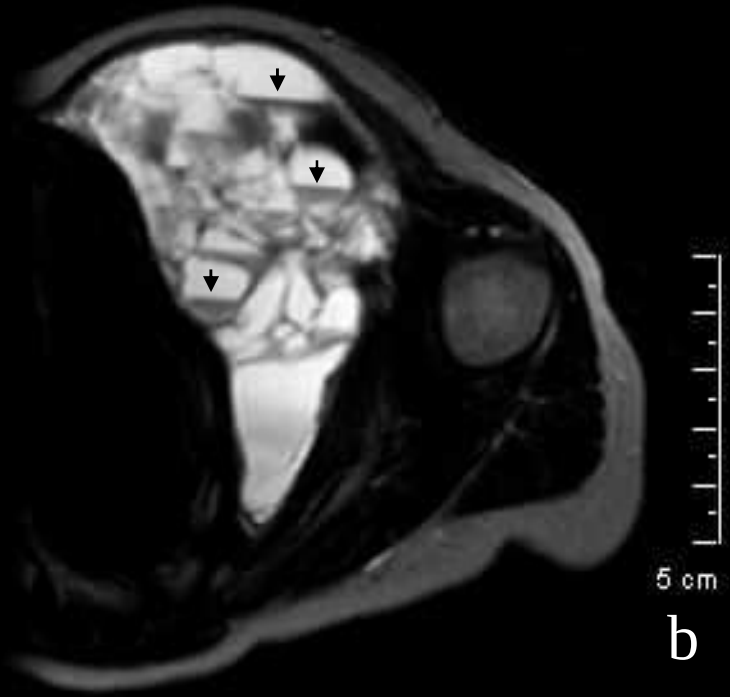
phlebolith

venous malformation

fluid-fluid levels



a



b

T1

T2

lymphatic malformation

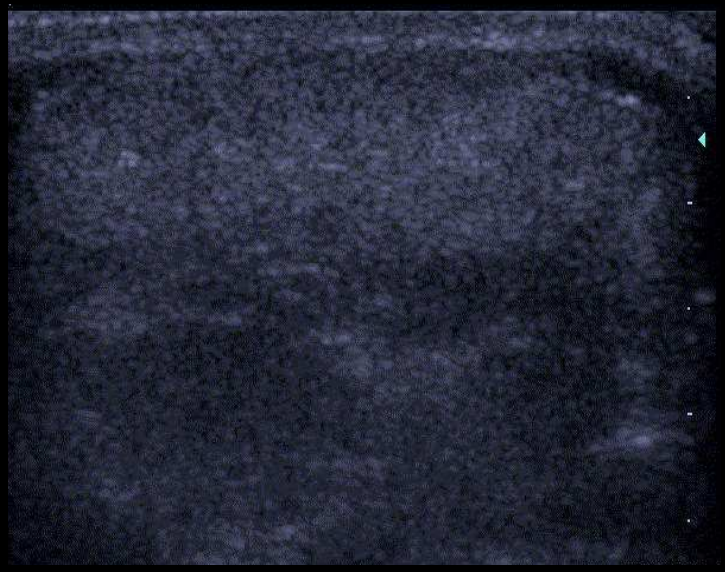
in the vast majority : NO

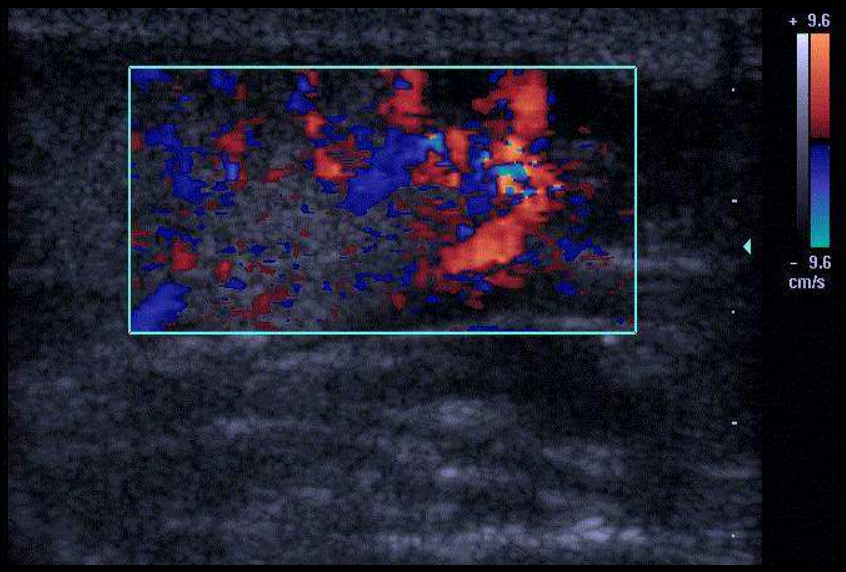
→ CM

doubtful cases : Doppler US

→ hemangioma ?

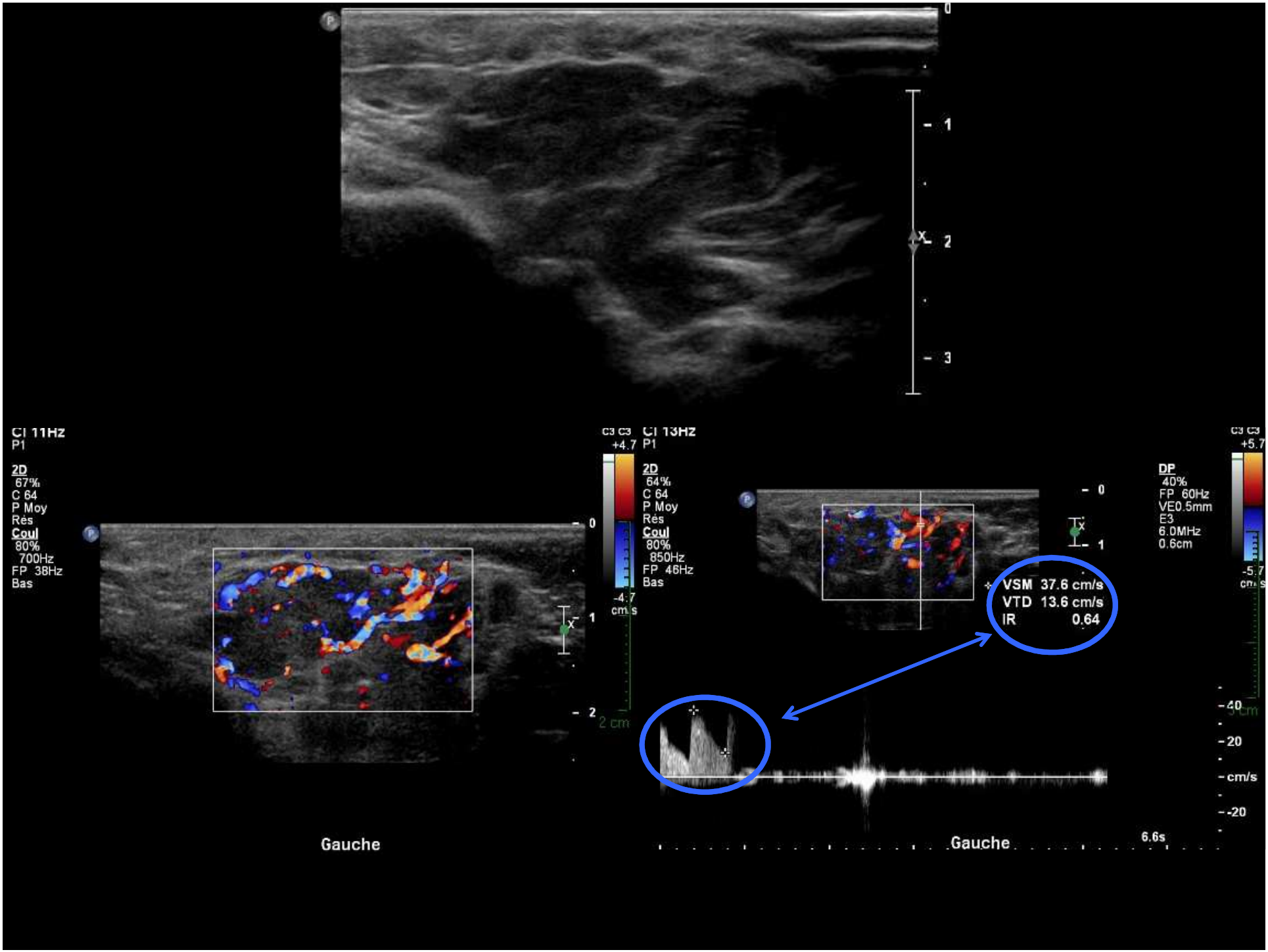
hemangioma





soft tissue mass

vascular network

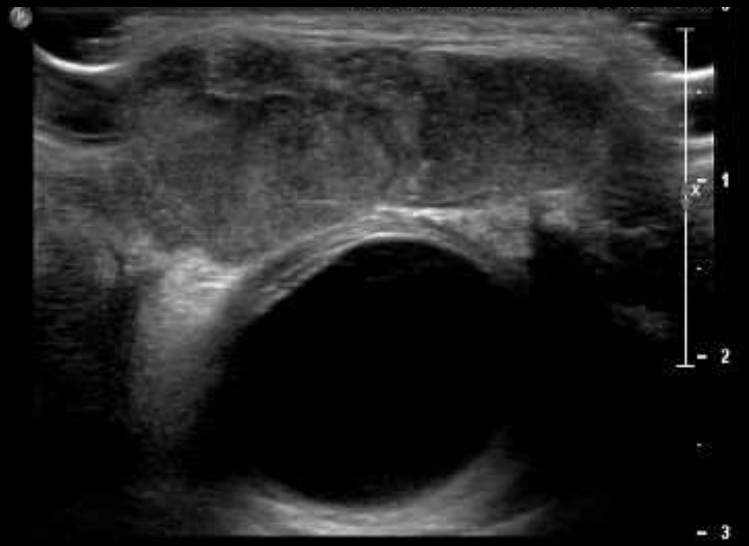

CI 11Hz
P1
2D
67%
C 64
P Moy
Rés
Coul
80%
700Hz
FP 38Hz
Bas
CI 13Hz
P1
2D
64%
C 64
P Moy
Rés
Coul
80%
850Hz
FP 46Hz
Bas
DP
40%
FP 60Hz
VE0.5mm
E3
6.0MHz
0.6cm
VSM 37.6 cm/s
VTD 13.6 cm/s
IR 0.64
Gauche
Gauche
6.6s
cm/s

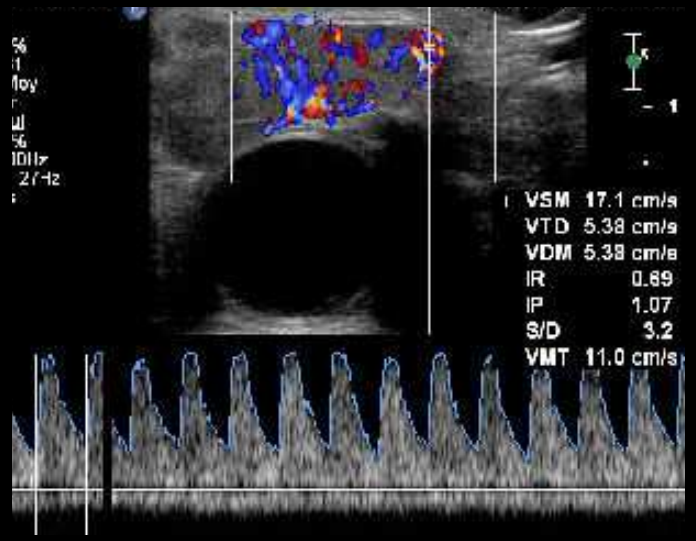
hemangioma

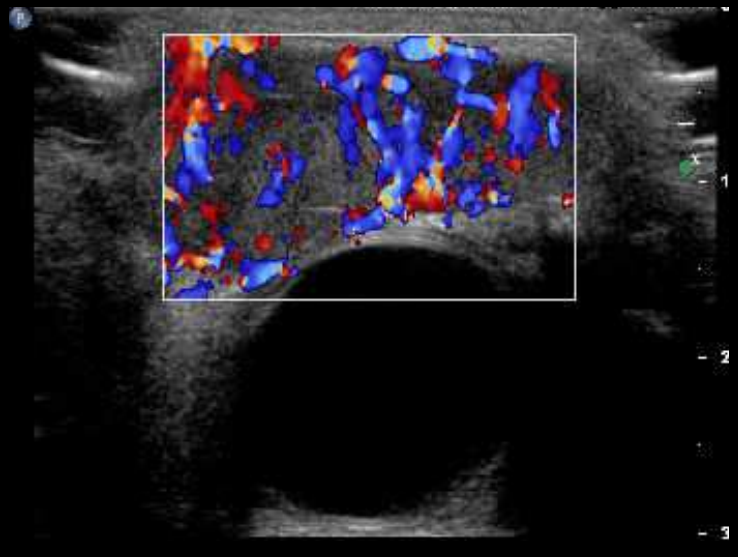
- soft tissue mass
- vascular network ++
  - low RI (often < 0.50)
  - fast flow in veins
- large feeding vessels and draining veins

hemangioma ?

hemangioma




VSM 17.1 cm/s
VTD 5.38 cm/s
VDM 5.38 cm/s
IR 0.69
IP 1.07
S/D 3.2
VMT 11.0 cm/s



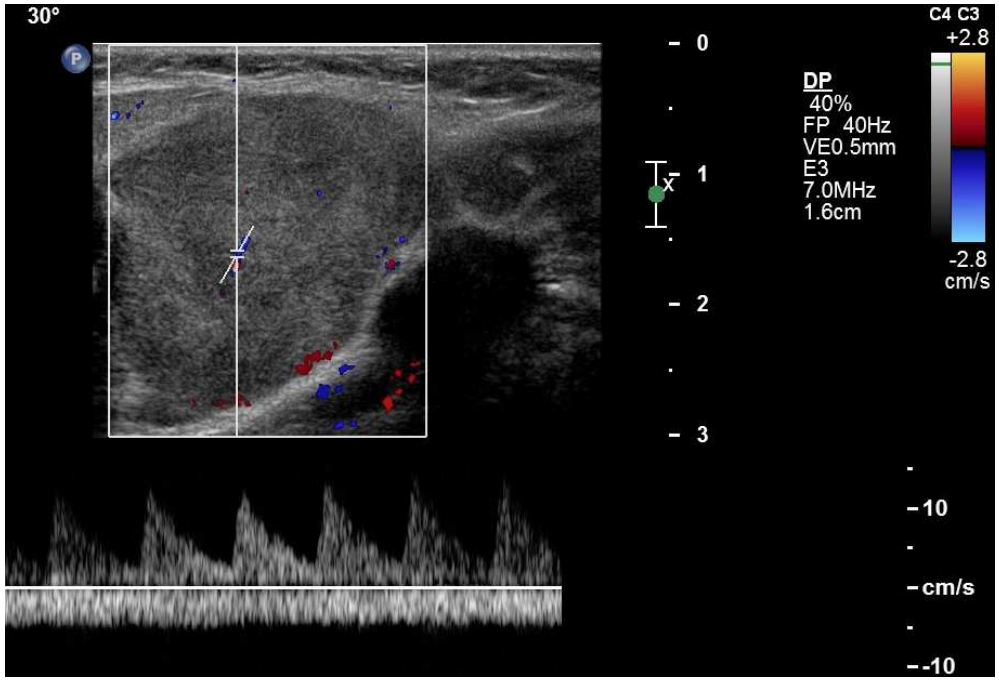
VSM 3.34 cm/s
VTD 2.05 cm/s
VDM 1.08 cm/s
IR 0.39
IP 1.03
S/D 1.6
VMT 2.19 cm/s

caveats : differential diagnosis

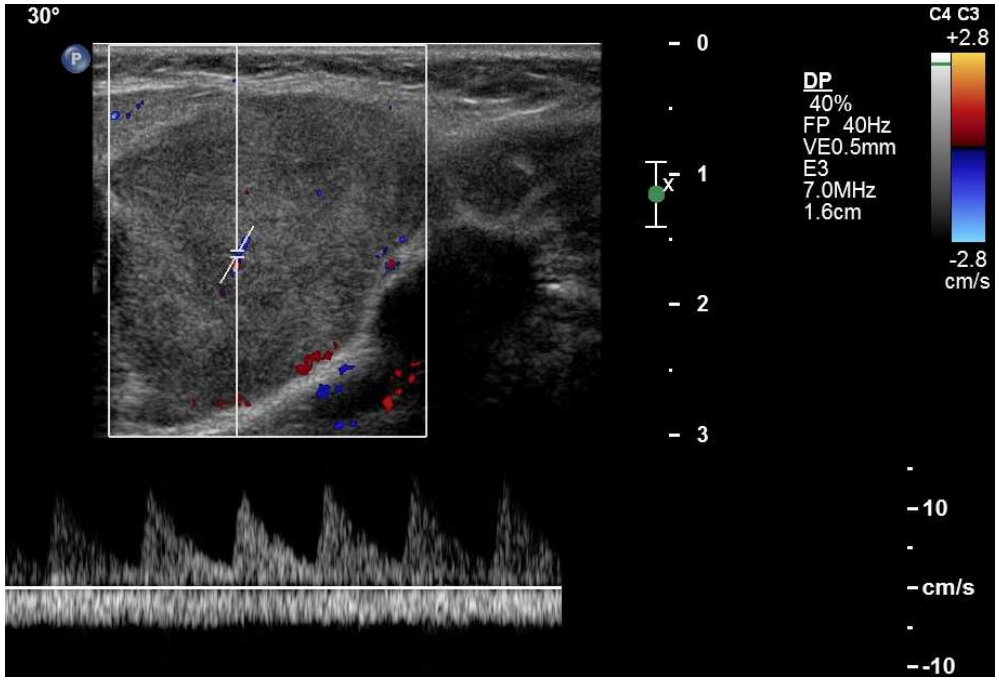
- soft tissue mass or swelling !

mandatory for precise
characterization and/or diagnosis

caveats : differential diagnosis

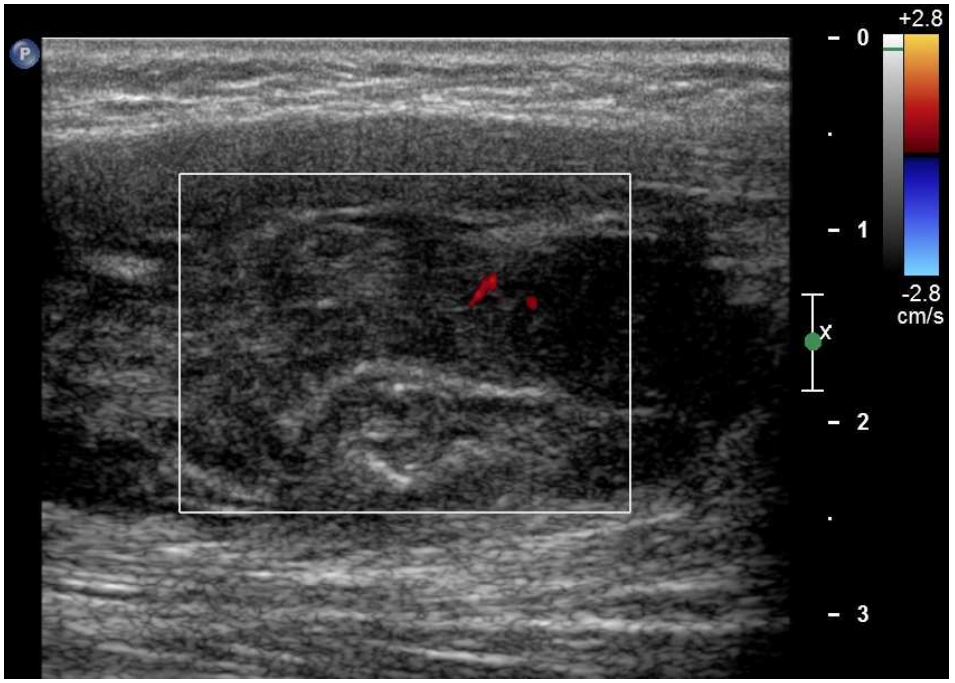


caveats : differential diagnosis



rhabdomyosarcoma

caveats : differential diagnosis



are imaging studies helpful for diagnosis of vascular malformations?

- in the vast majority : NO
- in particular cases : NO but additional information for follow-up and treatment

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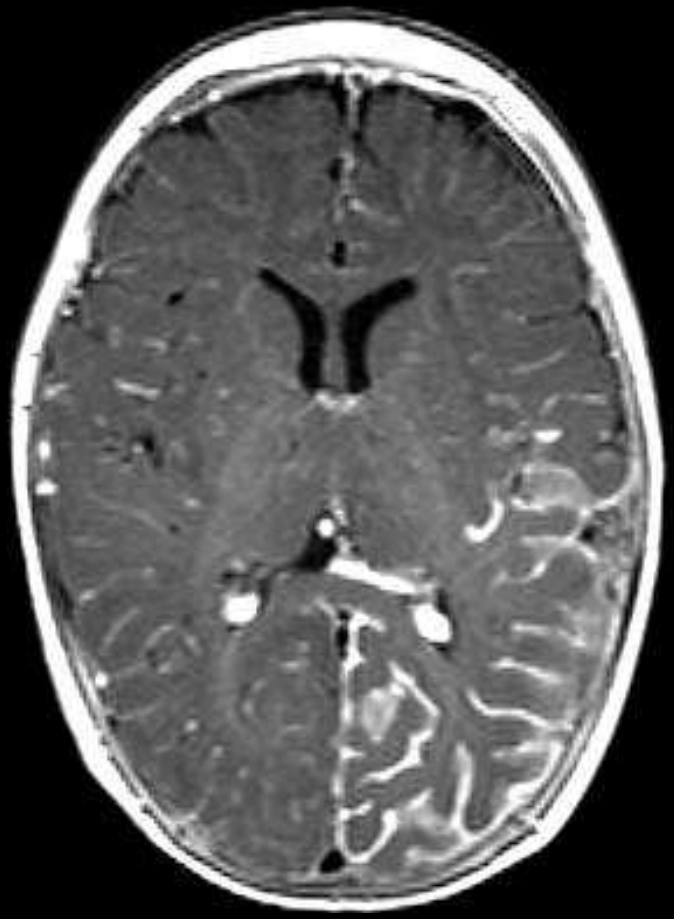
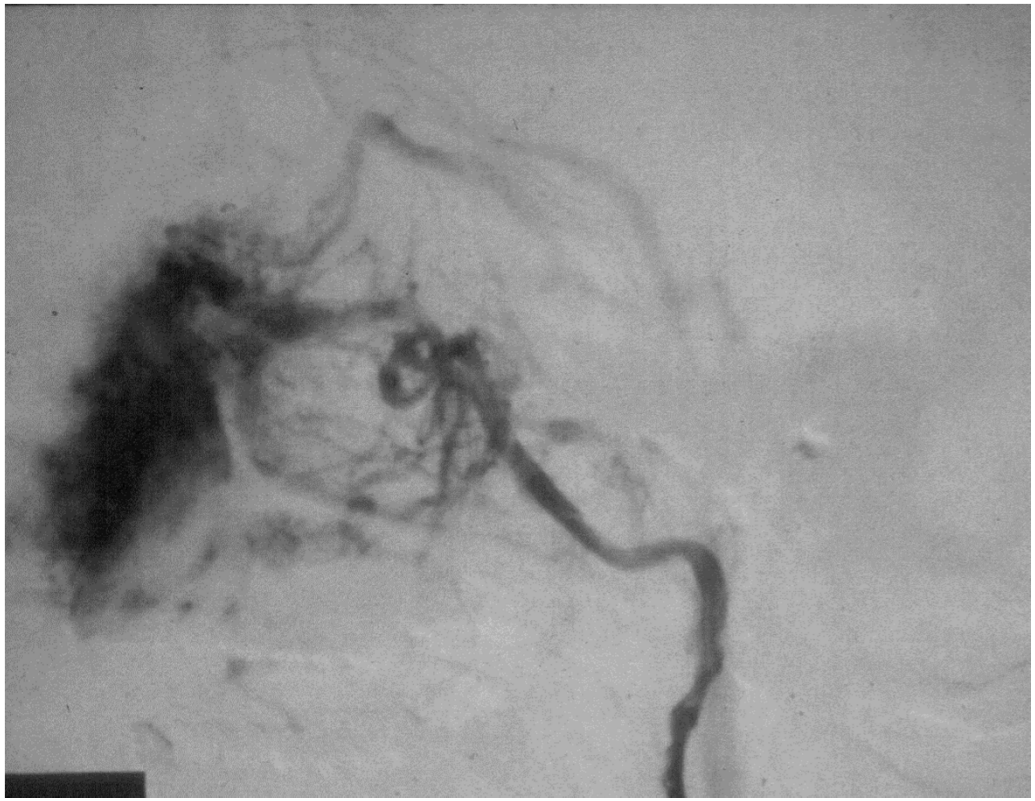
follow-up and treatment

Sturge - Weber syndrome



T1 + injection

in particular cases : NO but
additional information for
follow-up and treatment



are imaging studies helpful for diagnosis of vascular malformations?

- in the vast majority : NO
- in particular cases : NO but additional information for follow-up and treatment

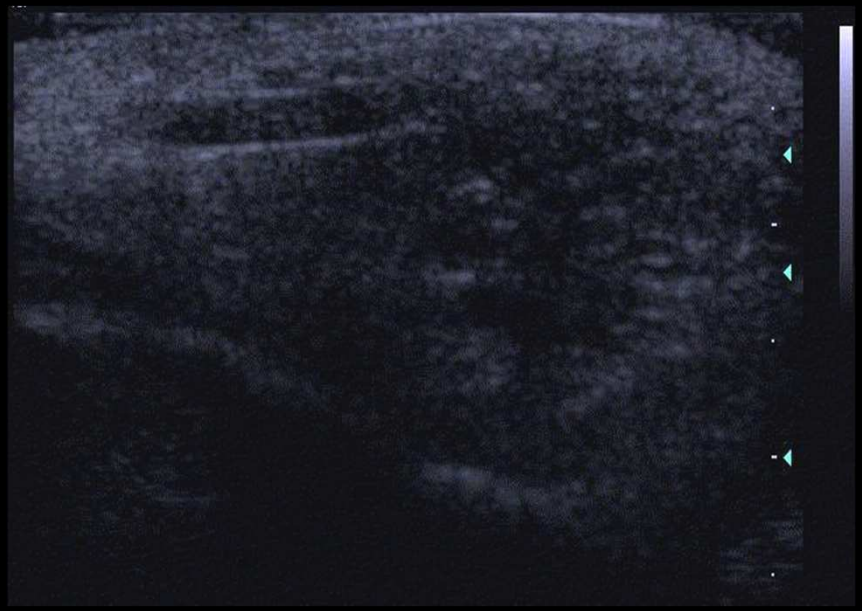
- in some cases : mandatory for precise characterization and/or diagnosis

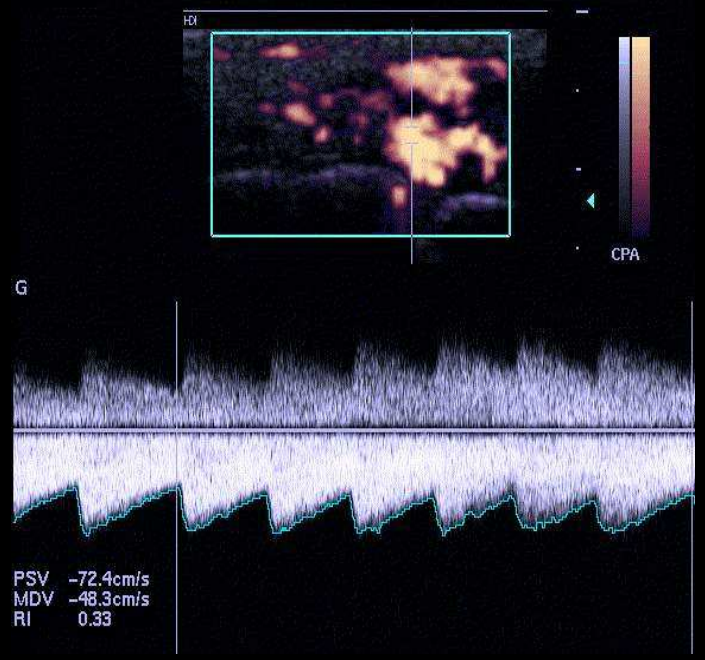
in some cases :

mandatory for precise
characterization and/or diagnosis

CM ? →

CM ?

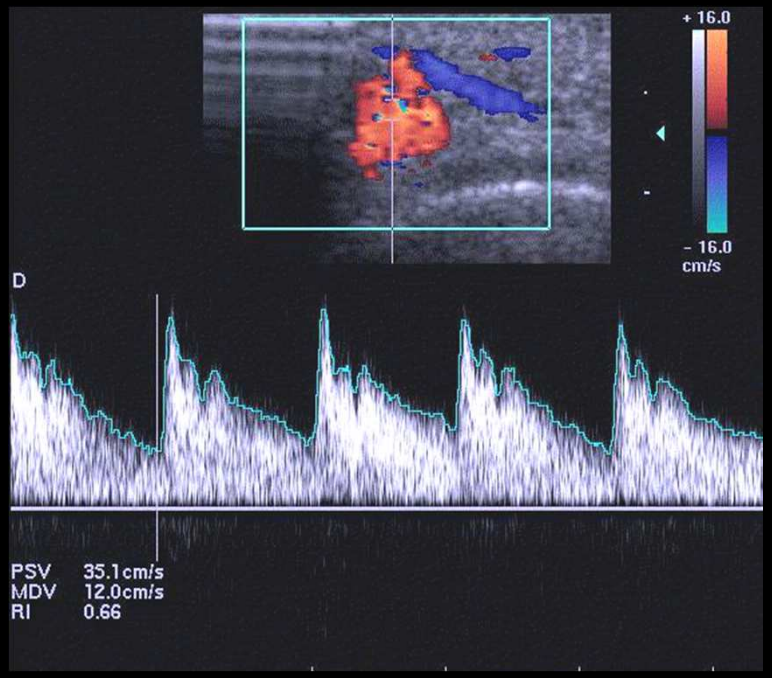


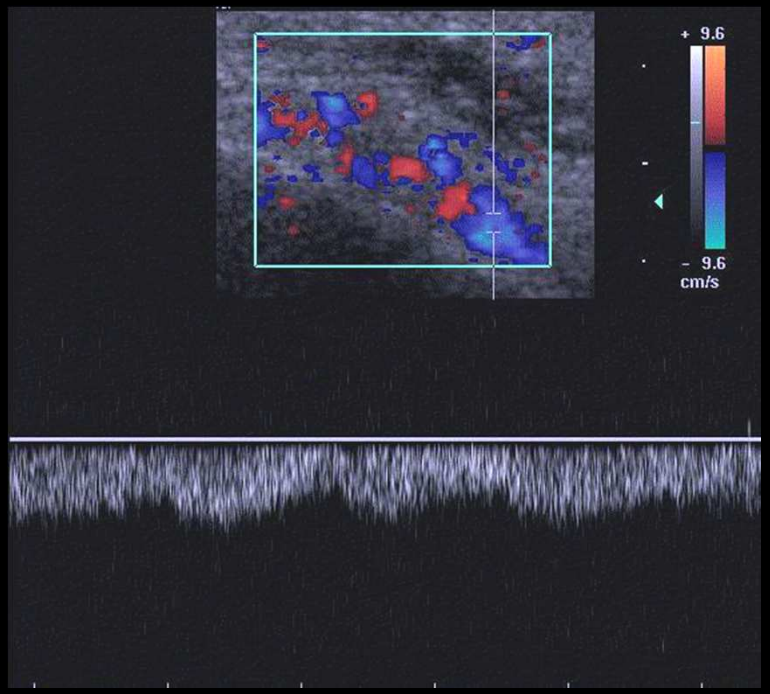


no mass !

nidus

arterio-venous malformation

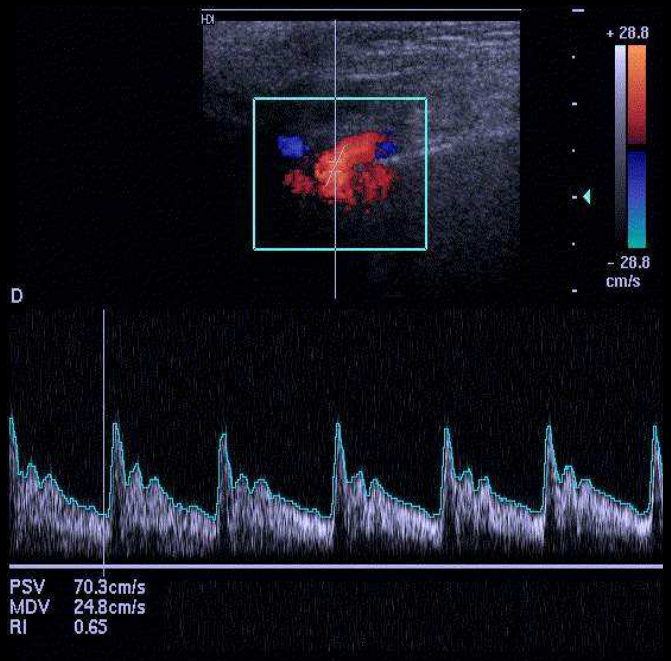




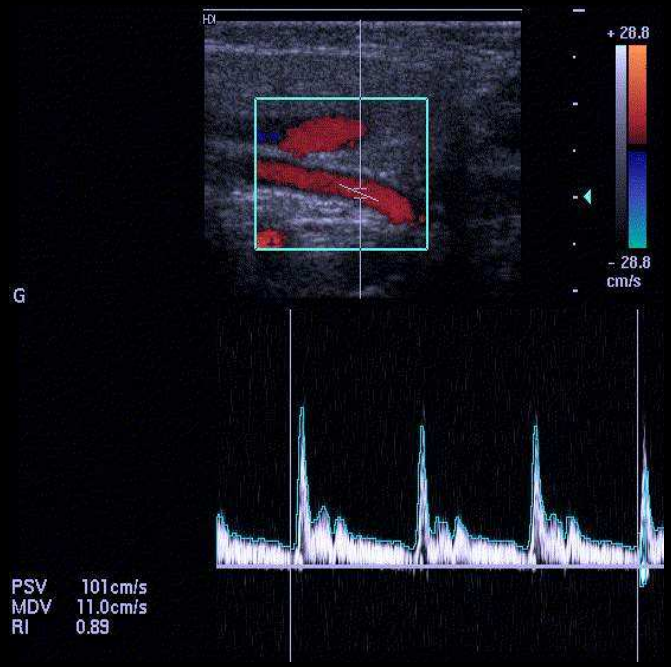
feeding artery
fast flow
low resistance ↘ RI

pulsatility in vein

arterio-venous malformation



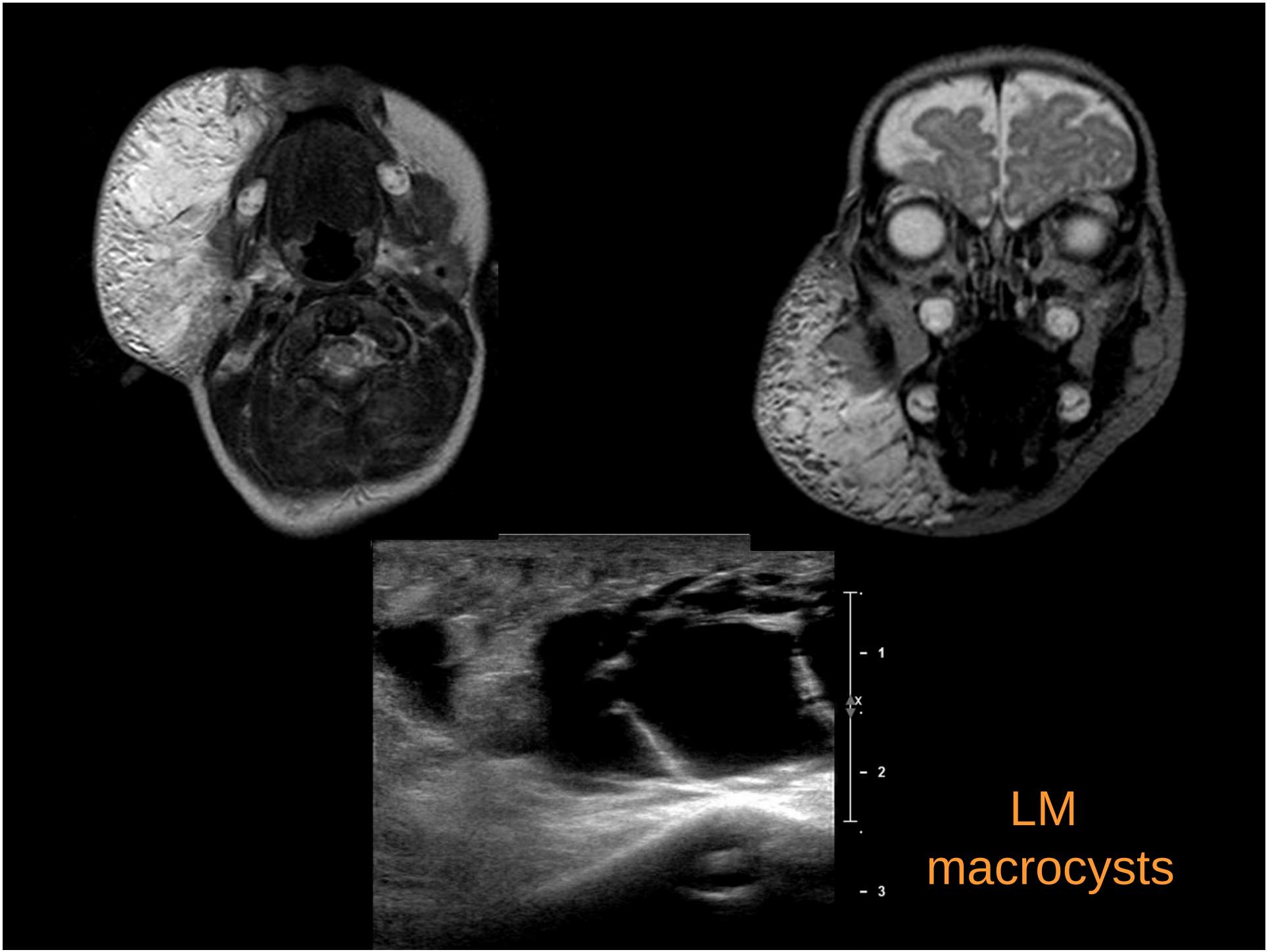
feeding artery
affected side



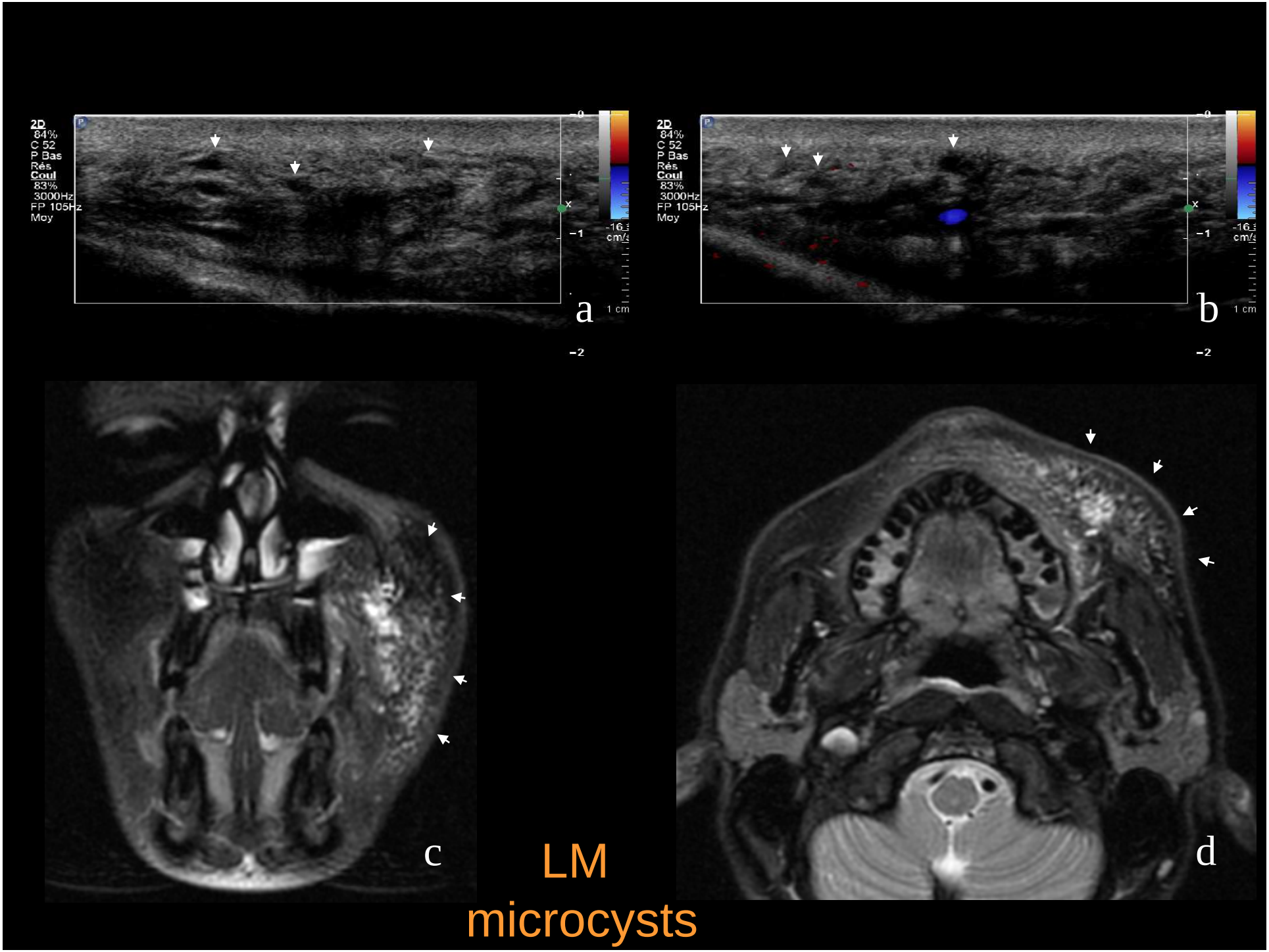
feeding artery
normal side

pre-therapeutic work-up

- sclerotherapy
  - LM
  - VM
- embolisation
- surgery

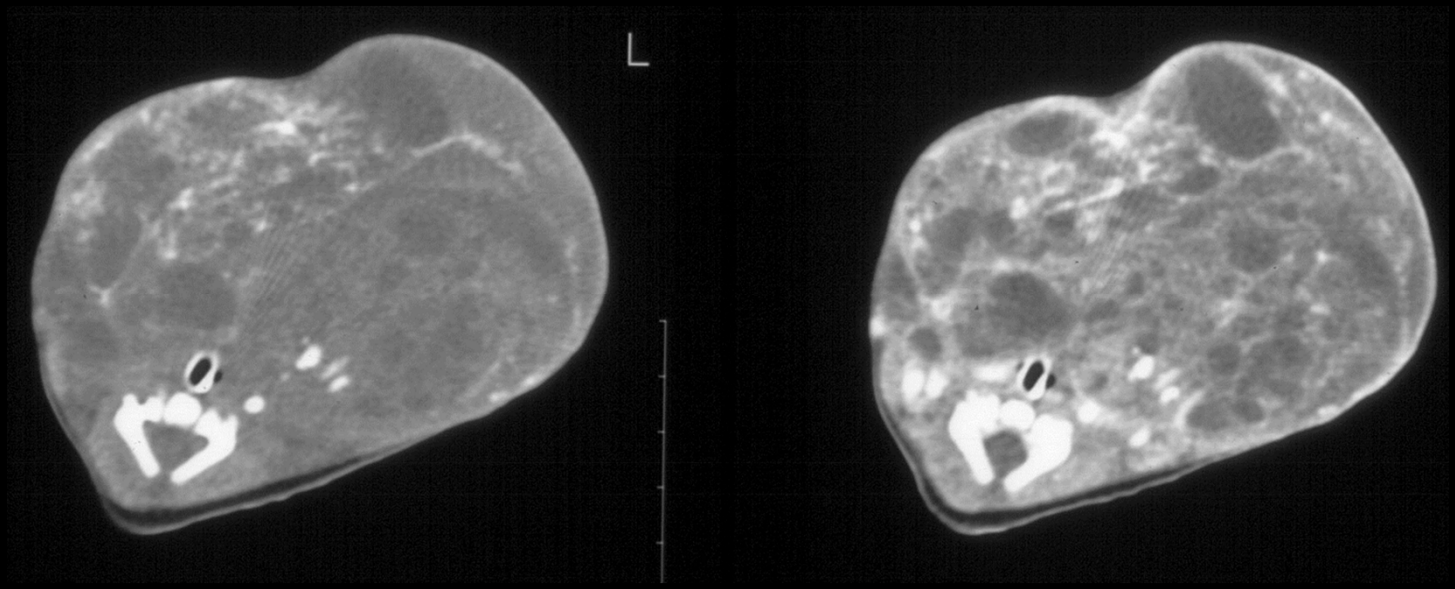


LM
macrocysts


2D
84%
C 52
P Bas
Rés
Coul
83%
3000Hz
FP 105Hz
Moy
1 cm
a
b
c
d
LM
microcysts

pre-therapeutic work-up

- sclerotherapy
- embolisation
- surgery : anatomical landmarks



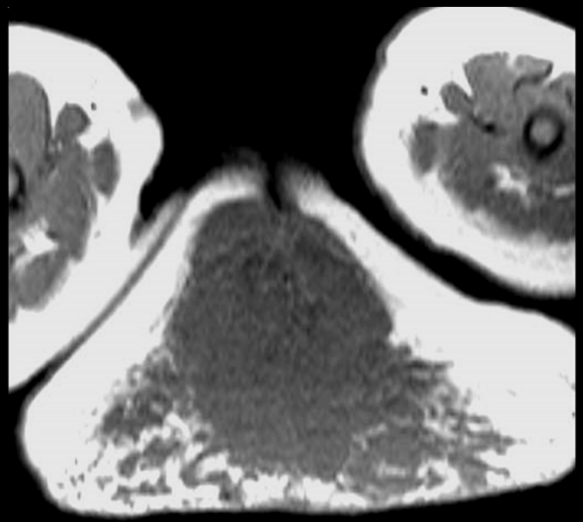
LM

imaging tools

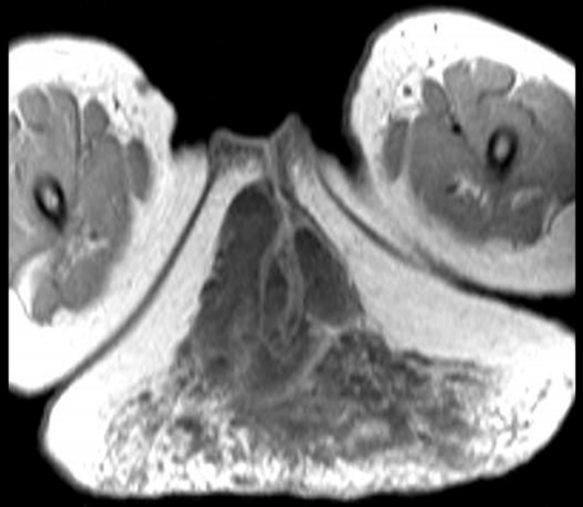
- ultrasound + Doppler
  - screening – first modality
  - morphology
  - flow – hemodynamic pattern
- MRI (or CT)
  - cross-sectional anatomy → depth extension

- arteriography
  - (pre-)therapeutic approach

venous malformation

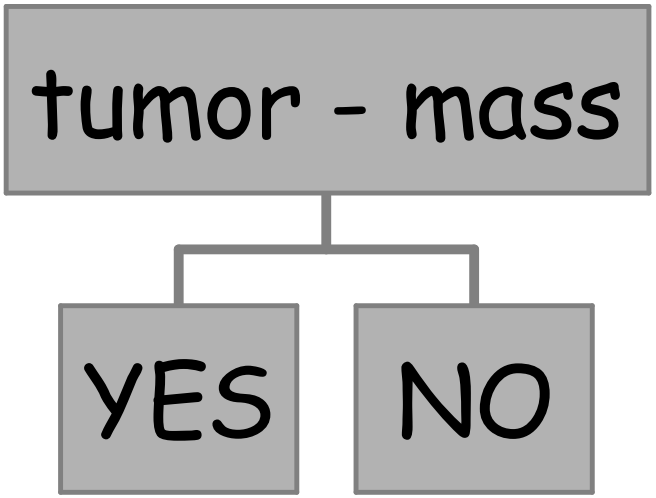


T1 pre

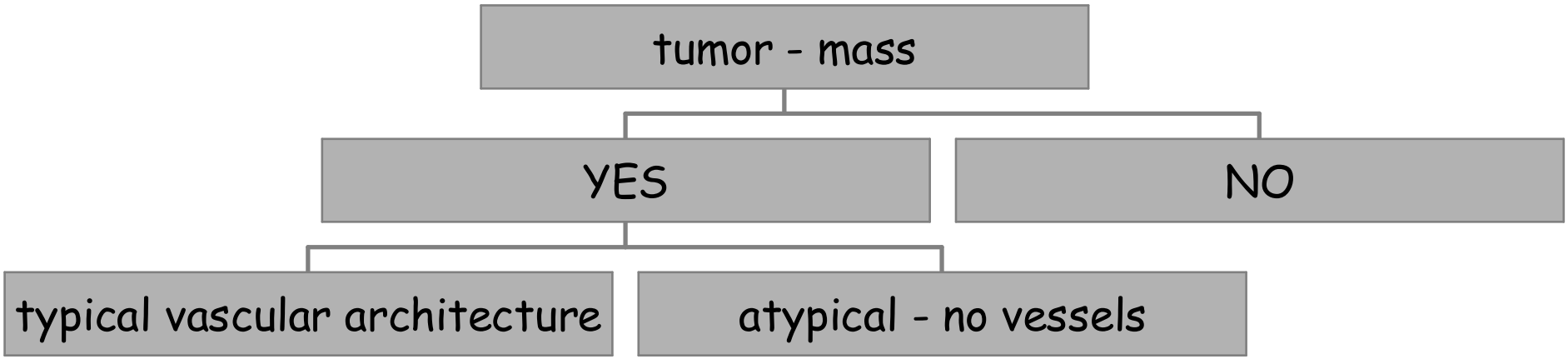


T1 post

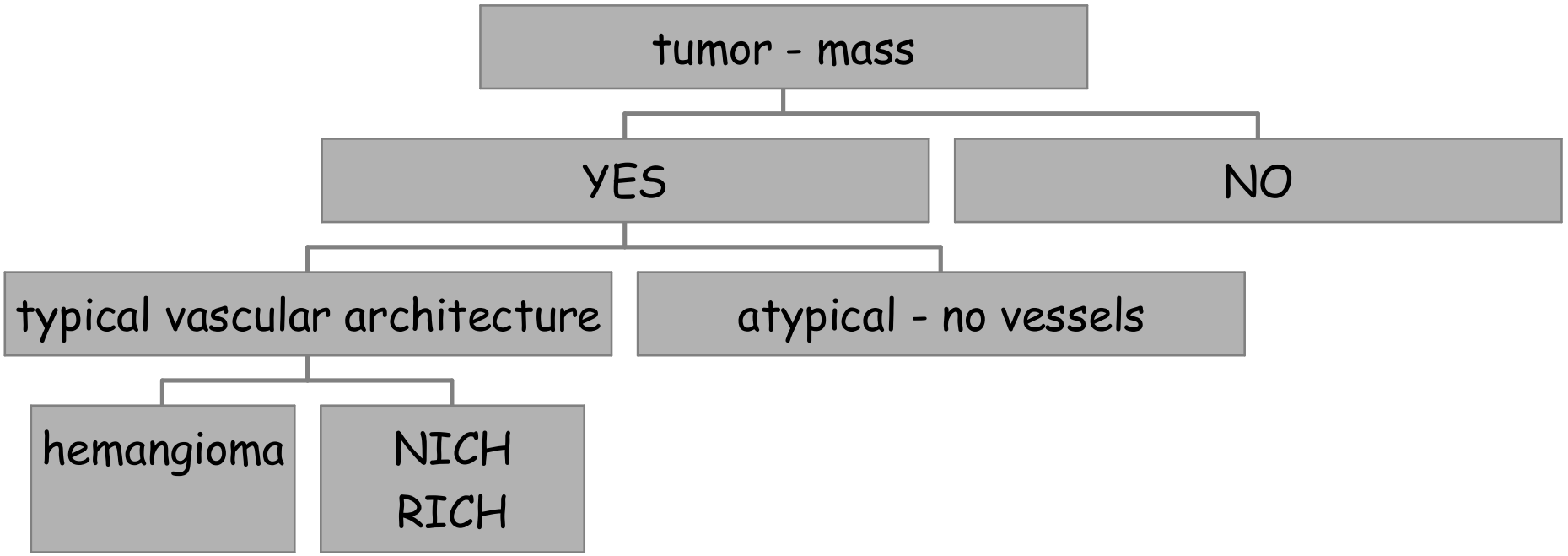
vascular birthmarks



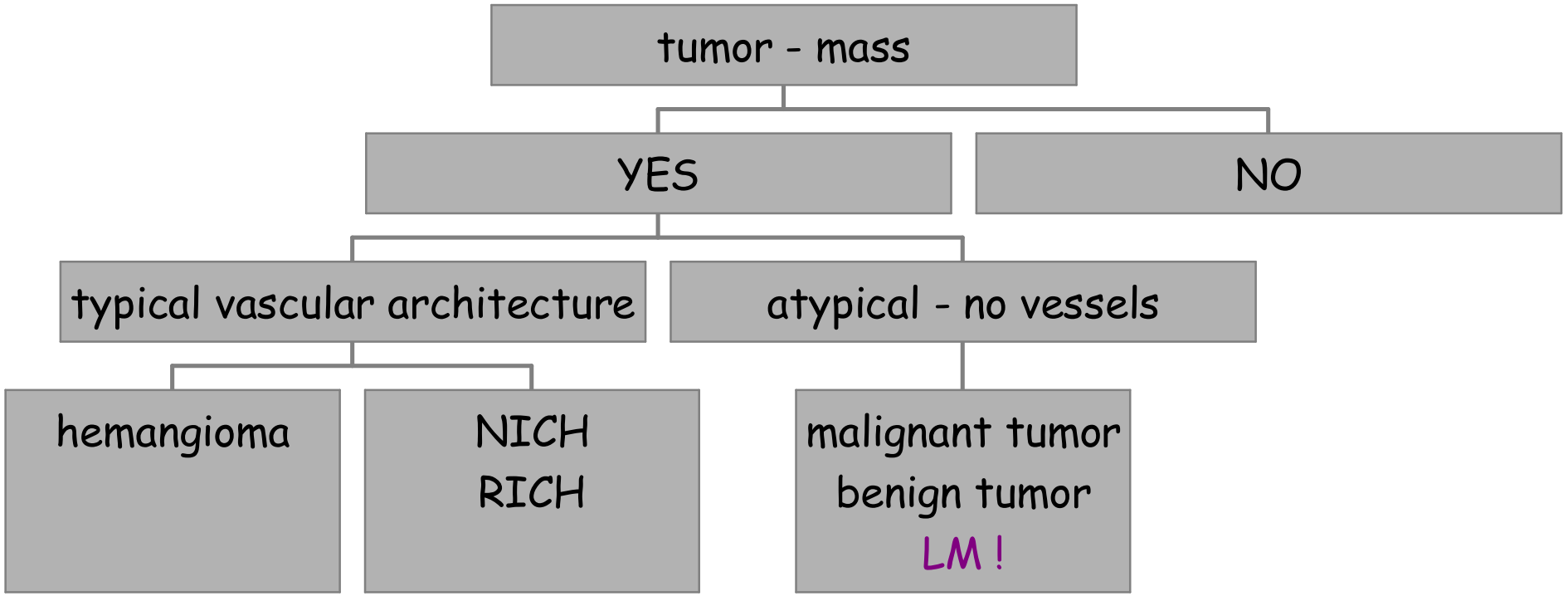
vascular birthmarks



vascular birthmarks



vascular birthmarks



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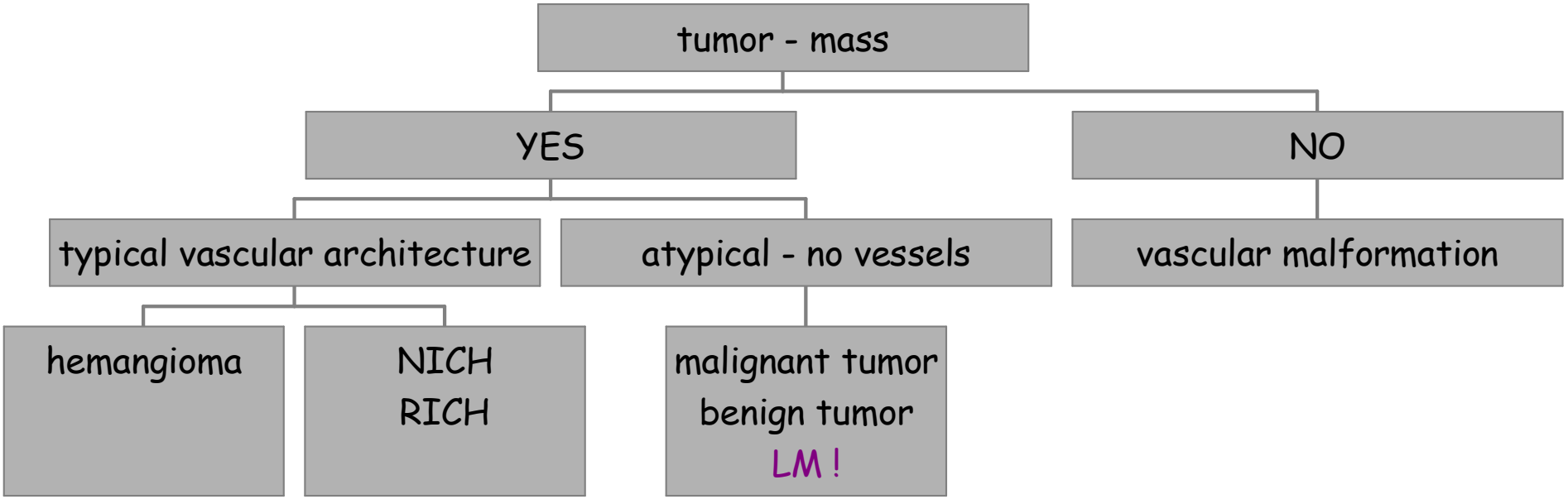
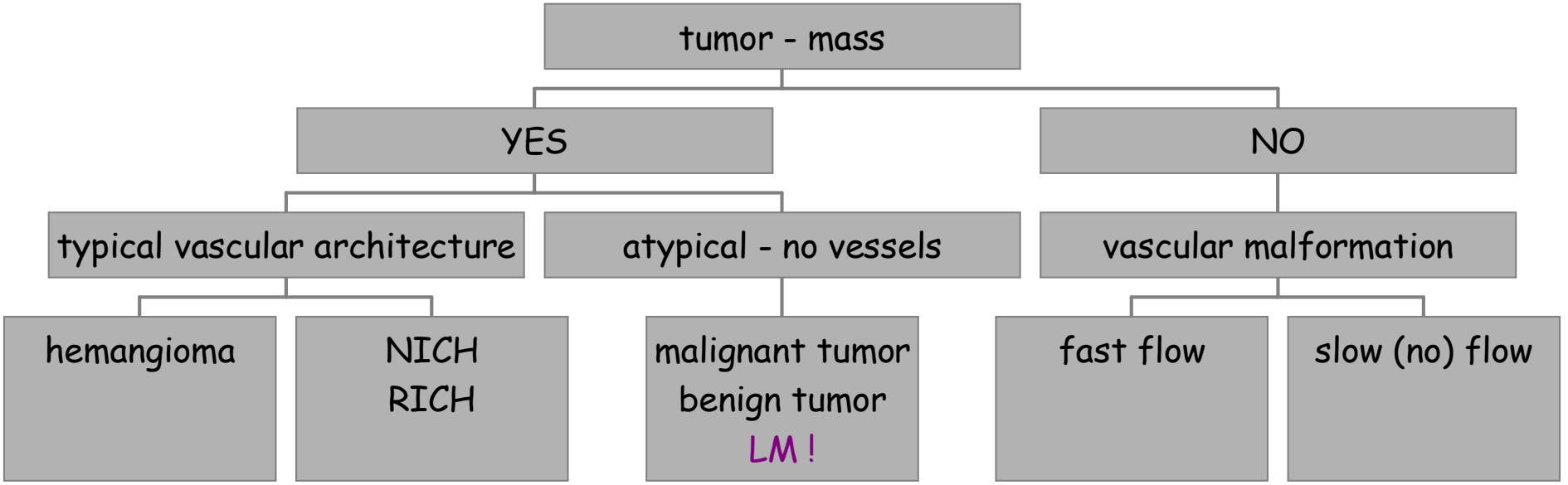
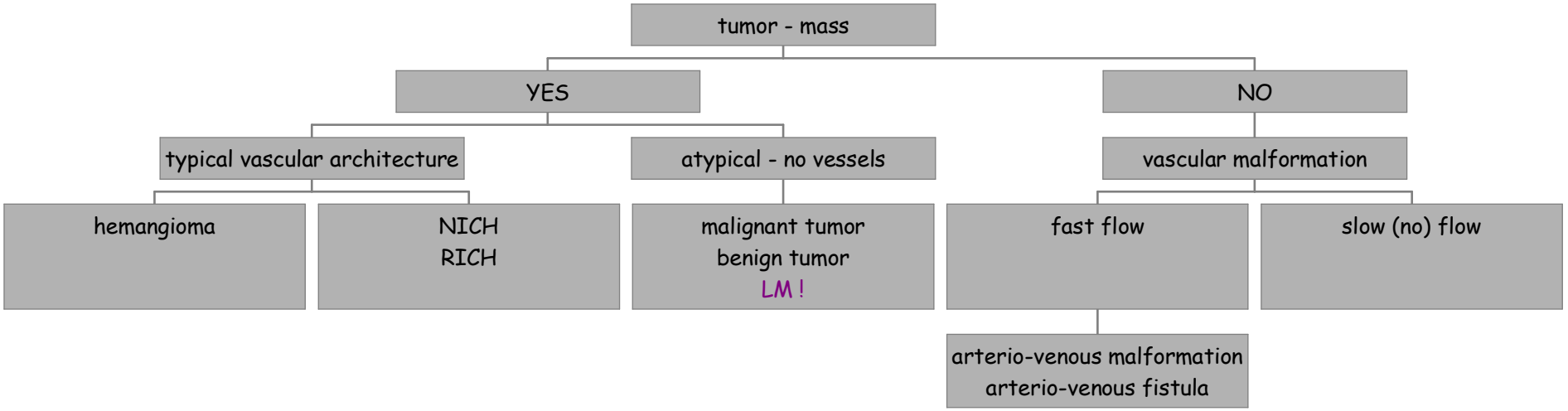
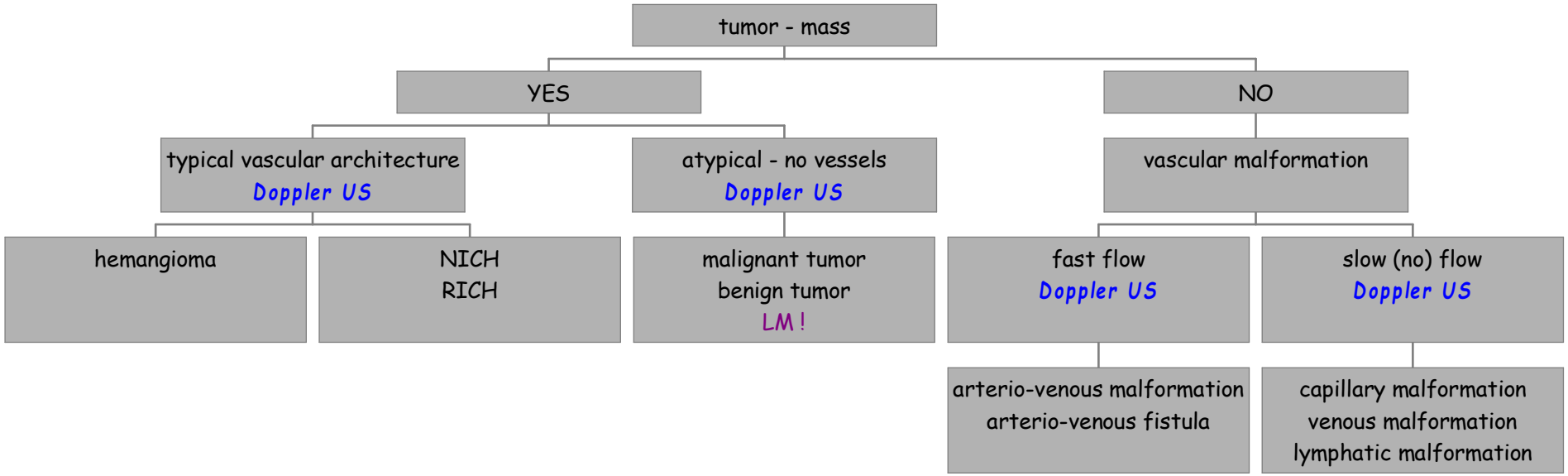


vascular birthmarks



vascular birthmarks



vascular birthmarks