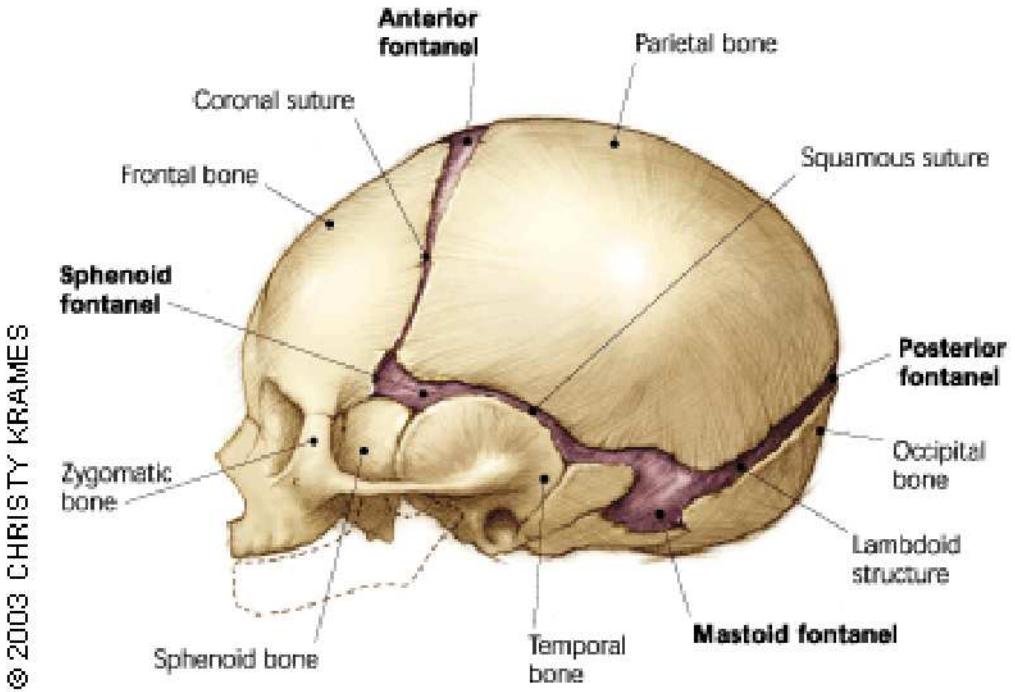
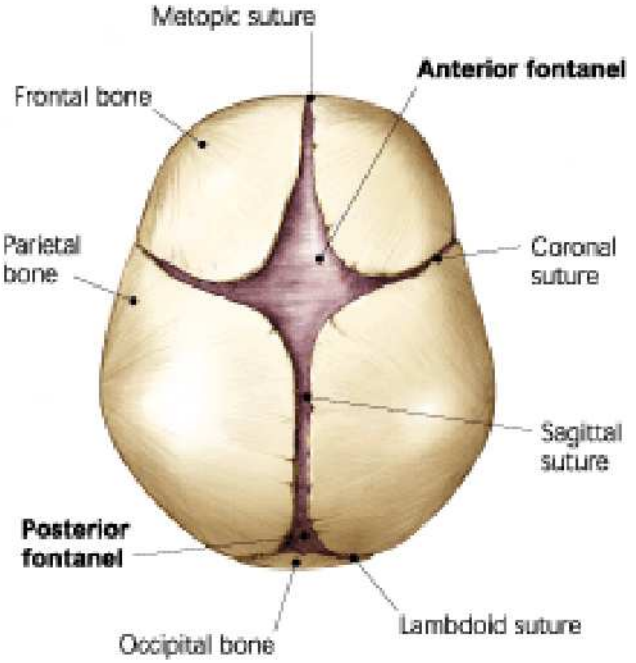
Imiku aju UH

Vladimir Tšerkassov

Meenutuseks

- Peale sündi on kuus lõge



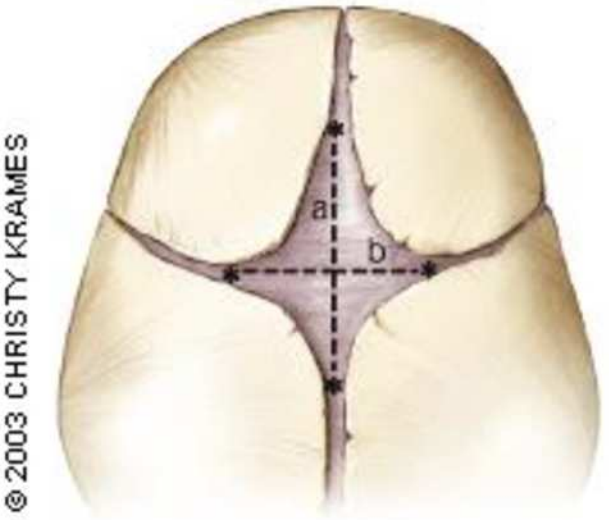


Meenutuseks

- Suur lõge (anterior fontanelle) peaks olema suletud 18-24 elukuuks, jääb *bregma*
- Keskmine sulgumise vanus

13,8 kuud

- Keskmine mõõt 2,1 cm

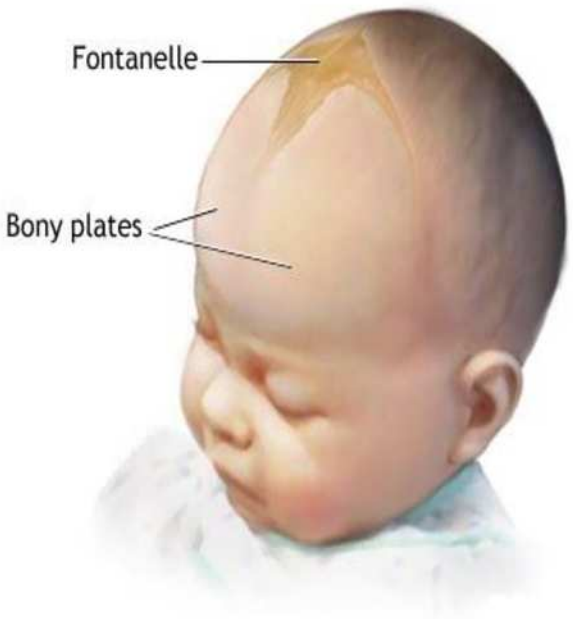


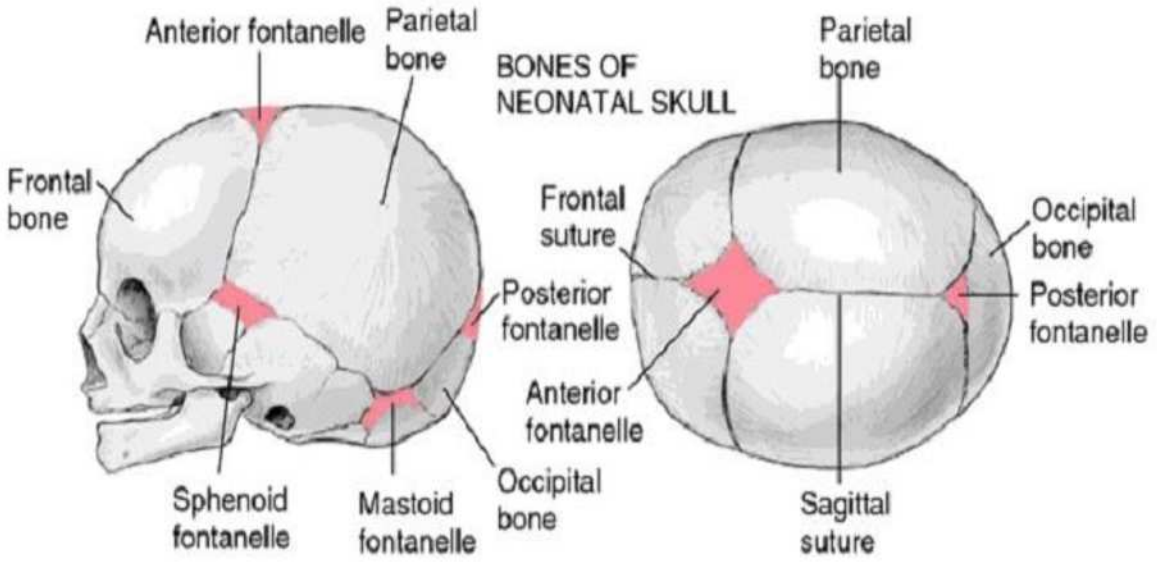
Anteroposterior (a) and transverse (b) diameters

$$\frac{a + b}{2} = \text{anterior fontanel size}$$

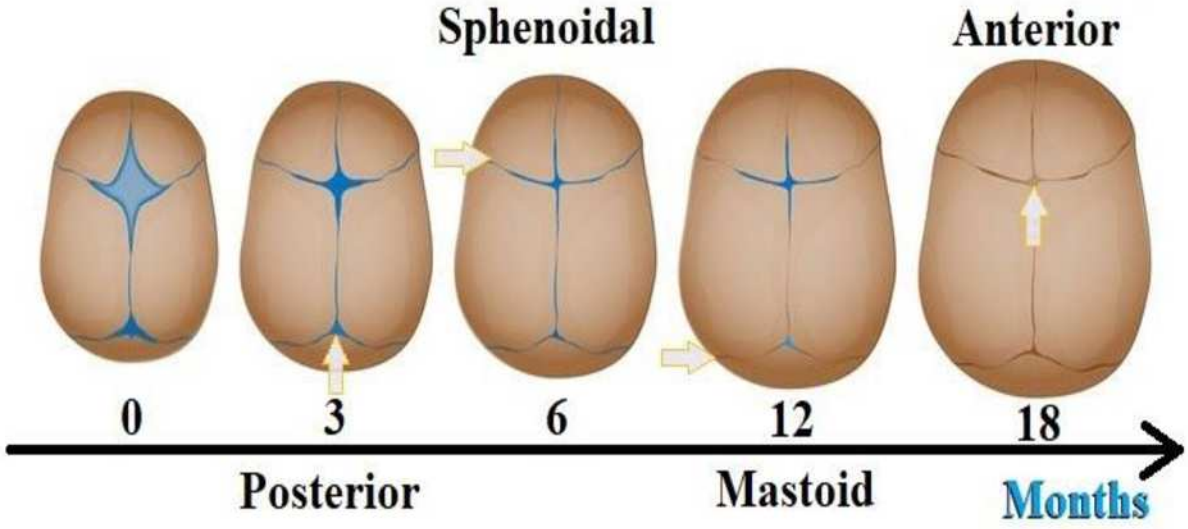
Meenutuseks

- Väike lõge (posterior fontanelle) sulgub u 3 kuu vanuses, jääb *lambda*
- 2 anterolateral (sphenoid) fontanelli, sulguvad u 6 kuu vanuses, jääb *pterion*
- 2 posterolateral (mastoid) fontanelli, sulguvad u 6-18 kuu vanuses (12), jääb *asterion*


Fontanelle
Bony plates


Anterior fontanelle
Parietal bone
Frontal bone
Sphenoid fontanelle
Mastoid fontanelle
Occipital bone
BONES OF NEONATAL SKULL
Parietal bone
Frontal suture
Occipital bone
Posterior fontanelle
Posterior fontanelle
Anterior fontanelle
Sagittal suture

Fontanelle


Sphenoidal
Anterior
0
3
6
12
18
Posterior
Mastoid
Months

Aju UH – miks?

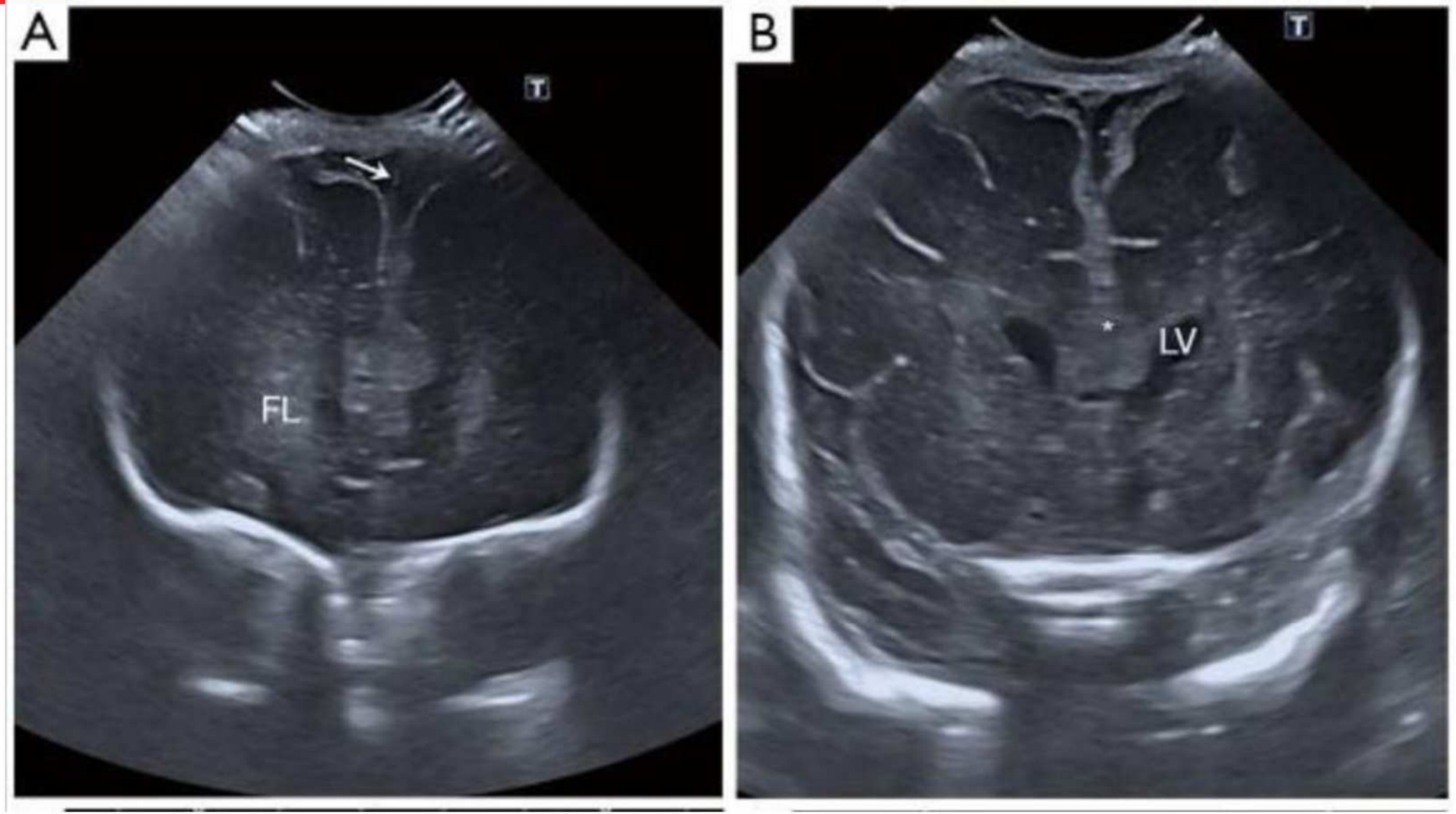
- Rutiinne uuring kõikidel enneagsetel lastel
- Kahtlus aju anomaaliale loote ultrahelis
- Vastsündinu, keda pole uuritud enne sündi
- **Iga haige laps, kellel võib olla tegemist aju kahjustusega/anomaaliaga**
- Ohutu, odav, ei ole vaja sedatsiooni, mobiilne, kiire ja saab teha nii palju kui vaja

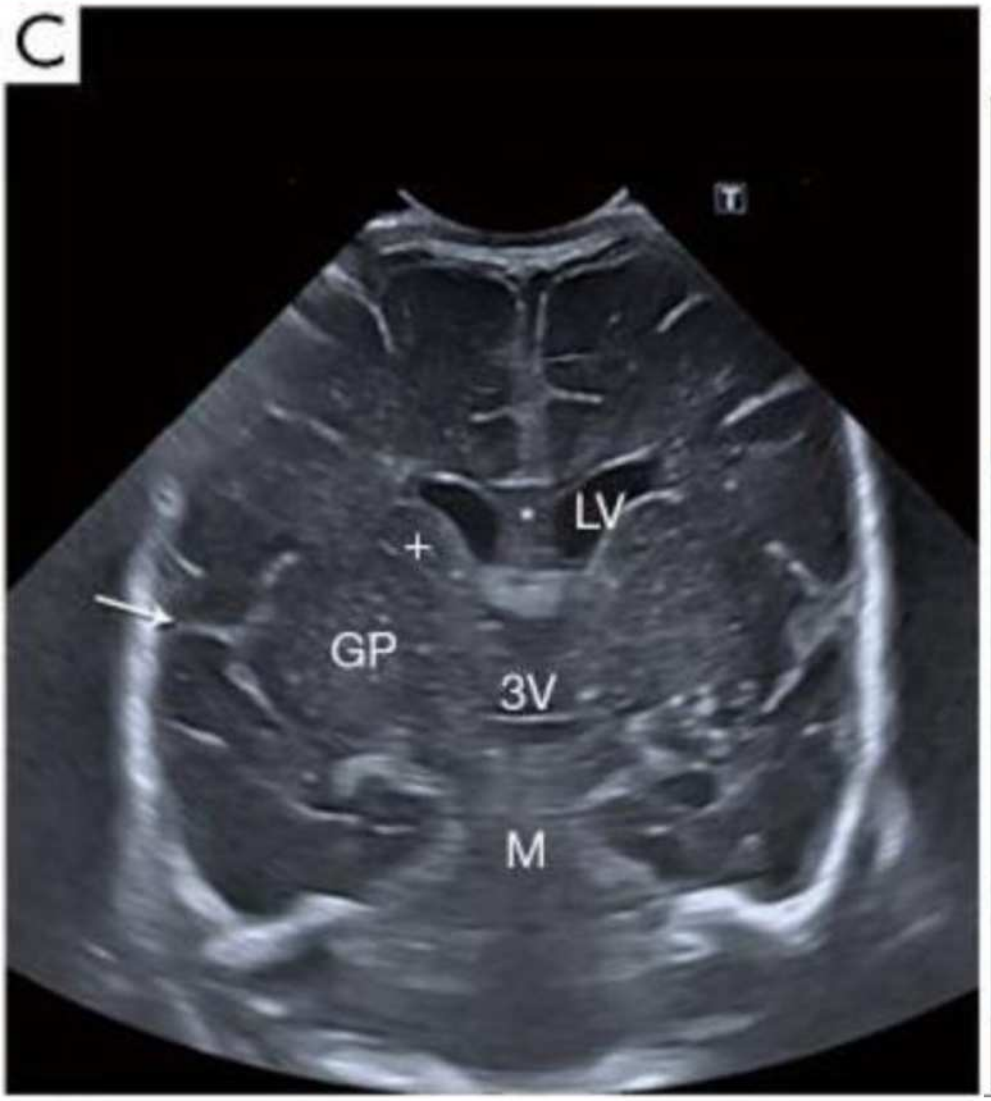
Aju uh – millal ja millega?

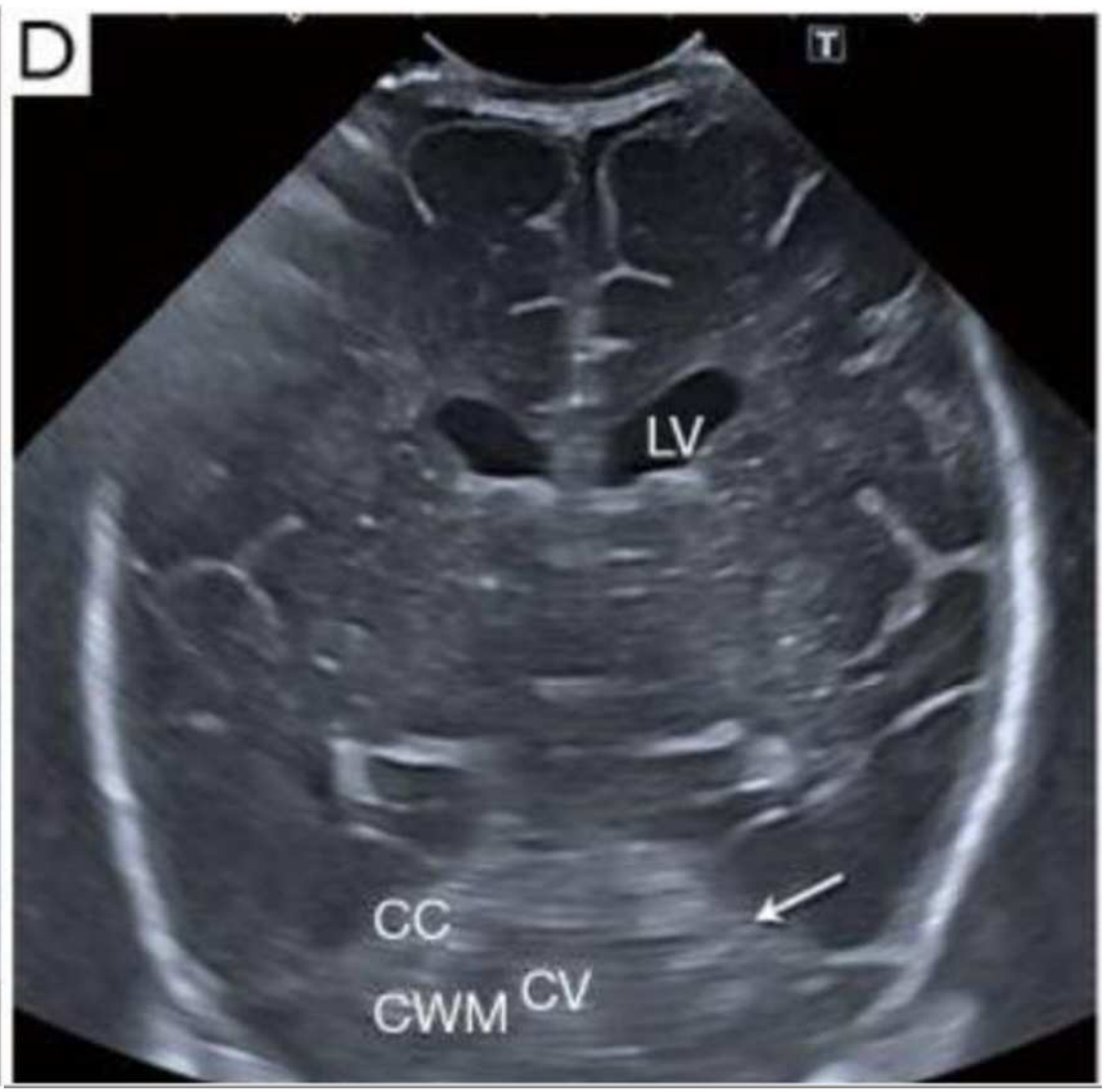
- Esimesel eluaastal
- Mida varem seda parem (näha)
- Tallinna lastehaigla kogemuse järgi parim kuni 3 kuud, võimalik ka kuni 6 kuud ja harva ka hiljem
- Micro convex andur 7,5-8 Mhz
- Lineaarne andur 11-12 Mhz

Kuidas?

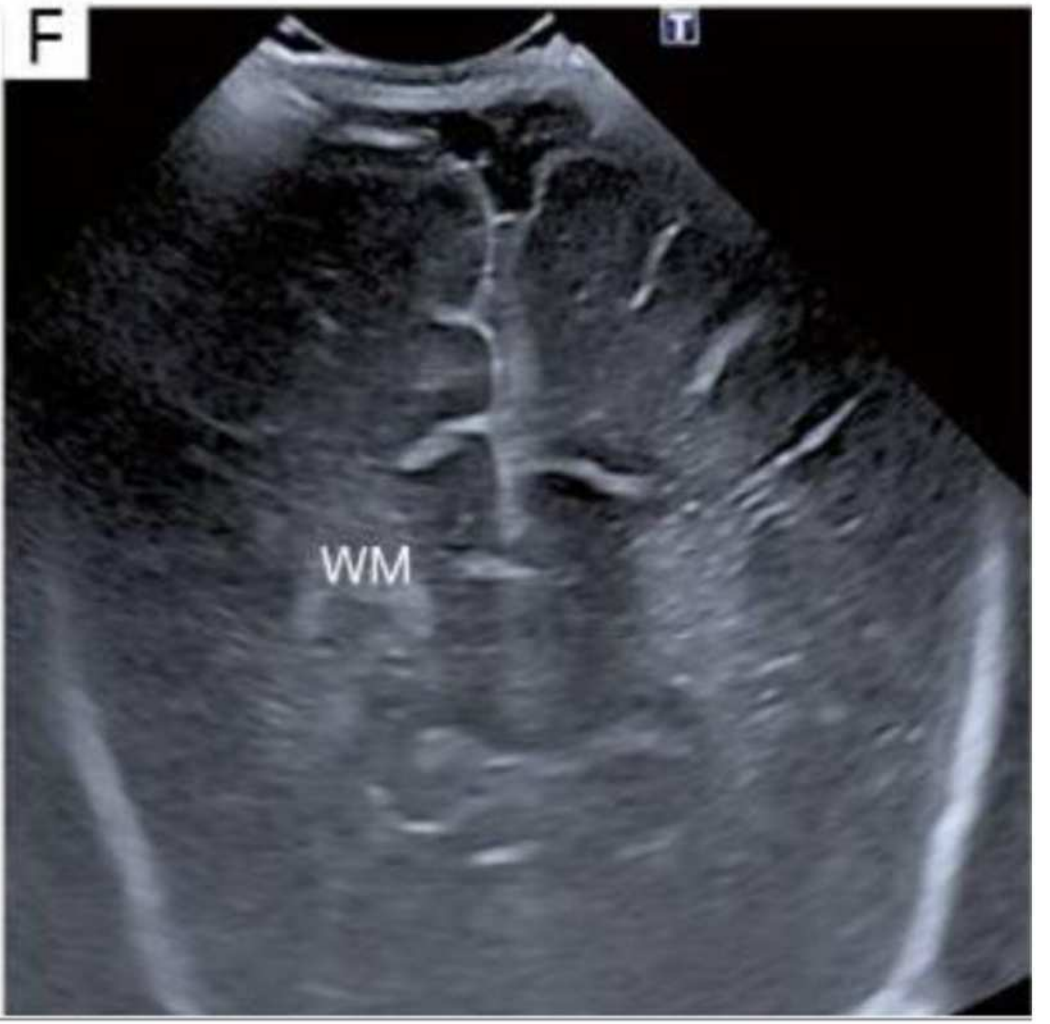
- Läbi suurt lõget koronaarselt, liikudes eest taha
- Sagitaalselt, vaadates nii keskjoonel kui ka mõlemat poolt
- vajadusel/võimalusel koronaarselt läbi mastoid/sfenoid lõge
- +Doppler

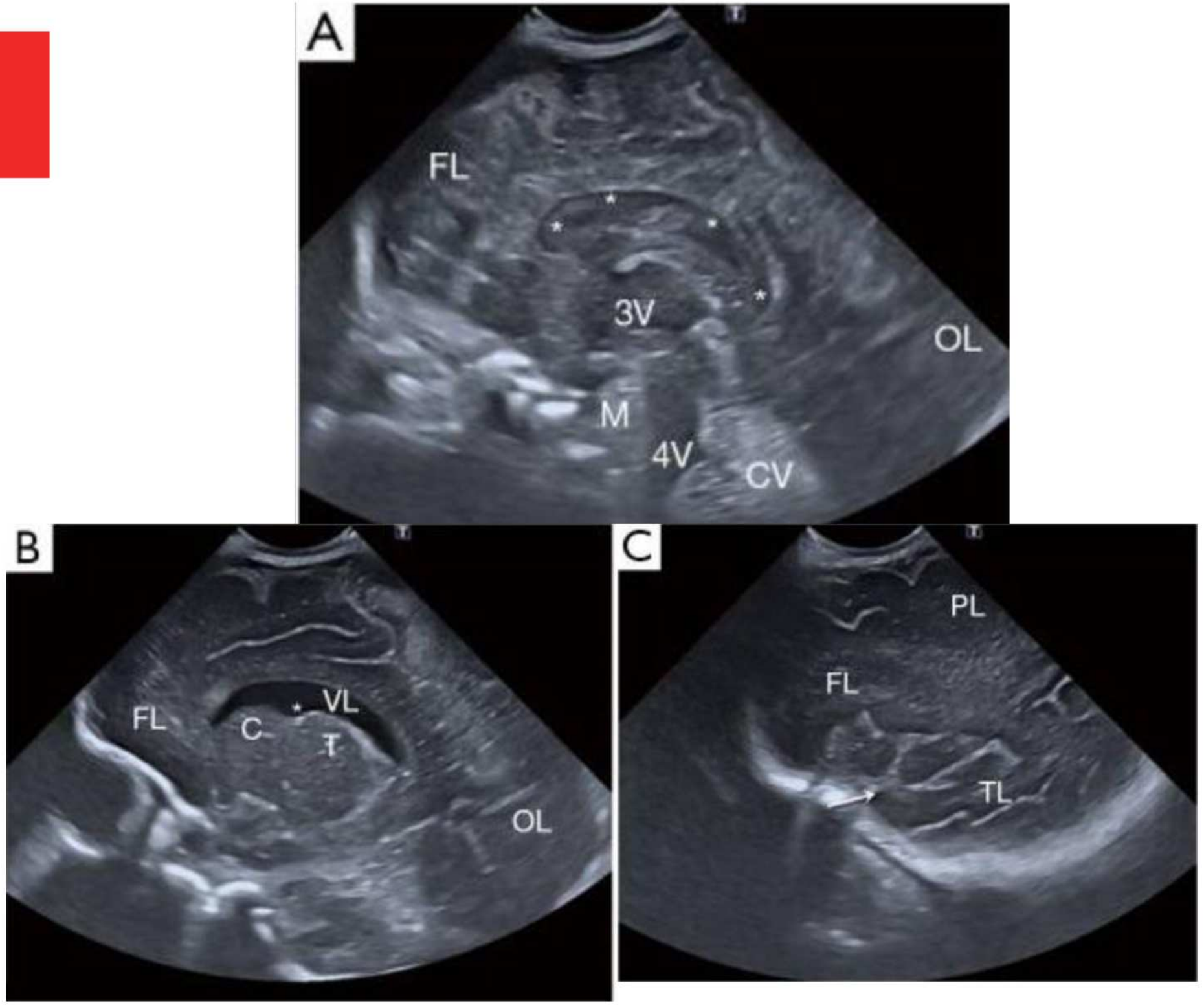

A
T
FL
B
T
LV

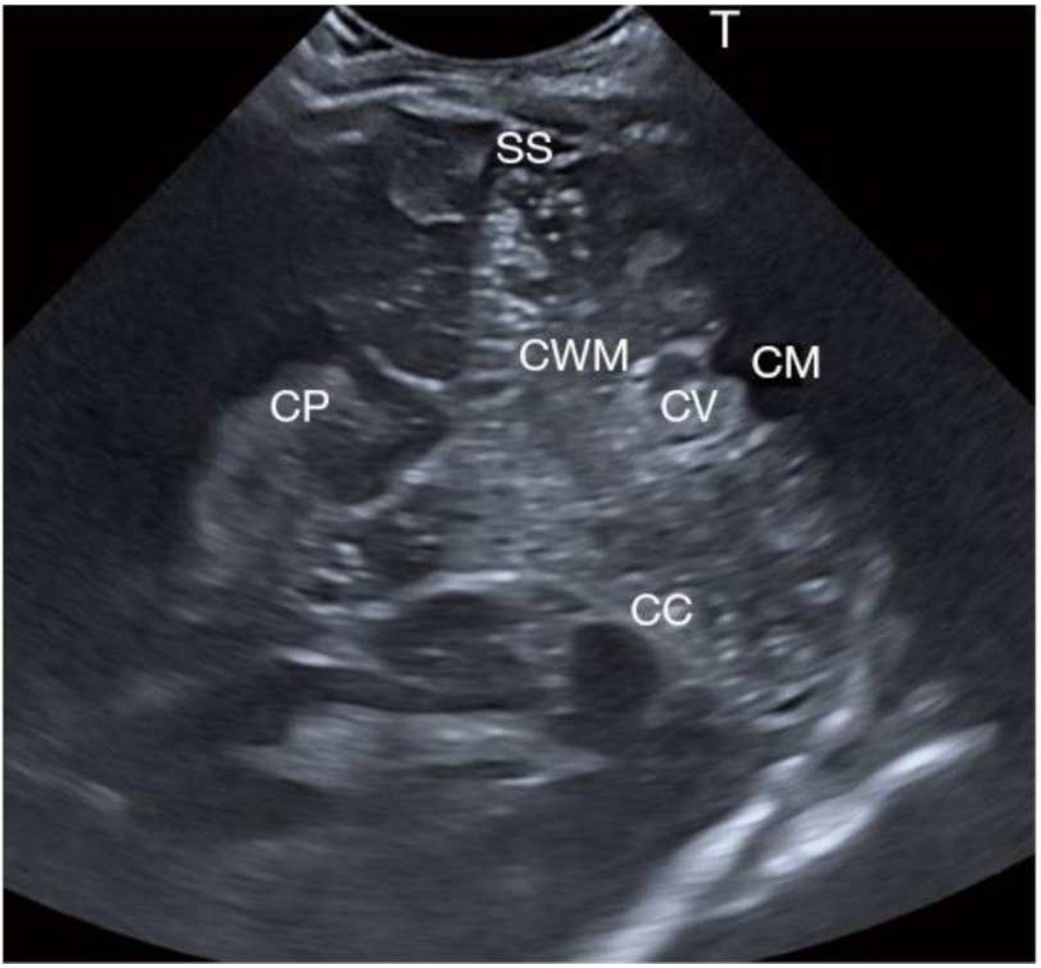

C
LV
GP
3V
M

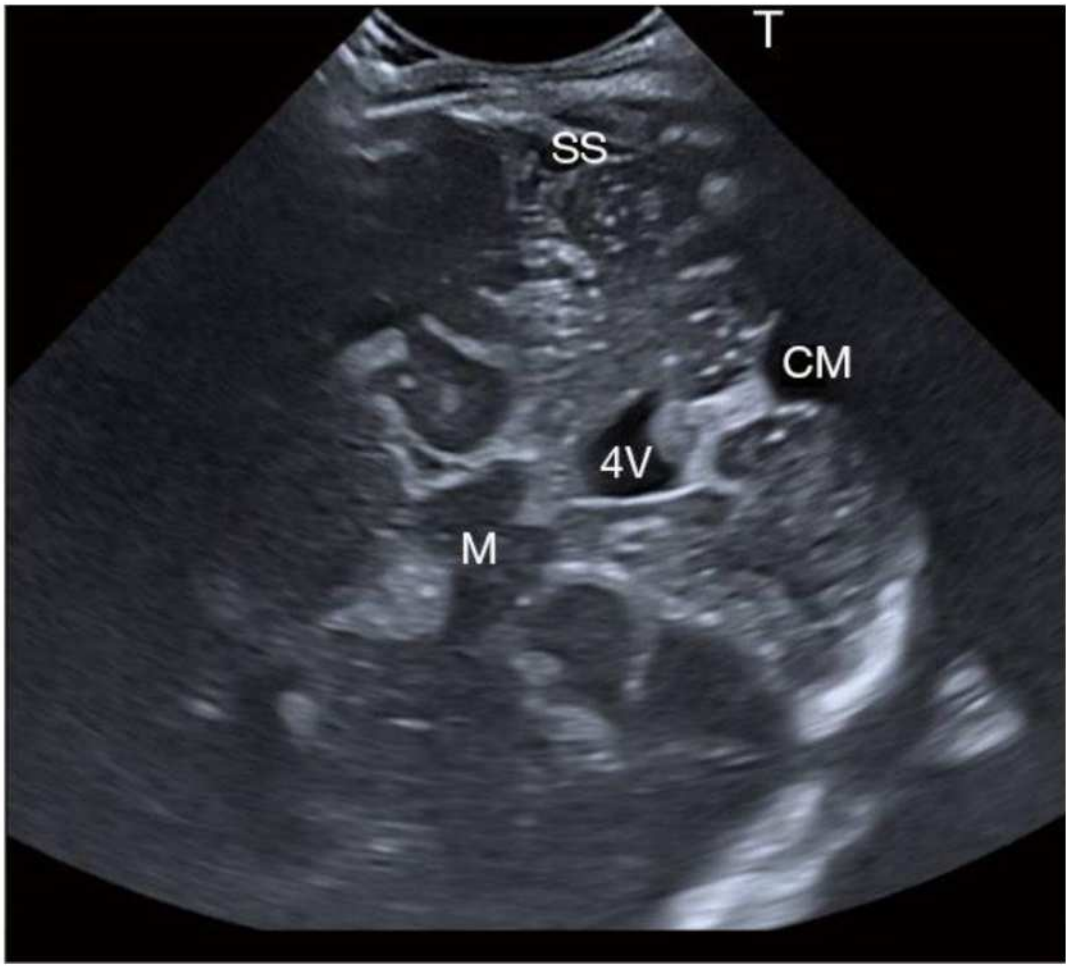

D
LV
CC
CWM
CV

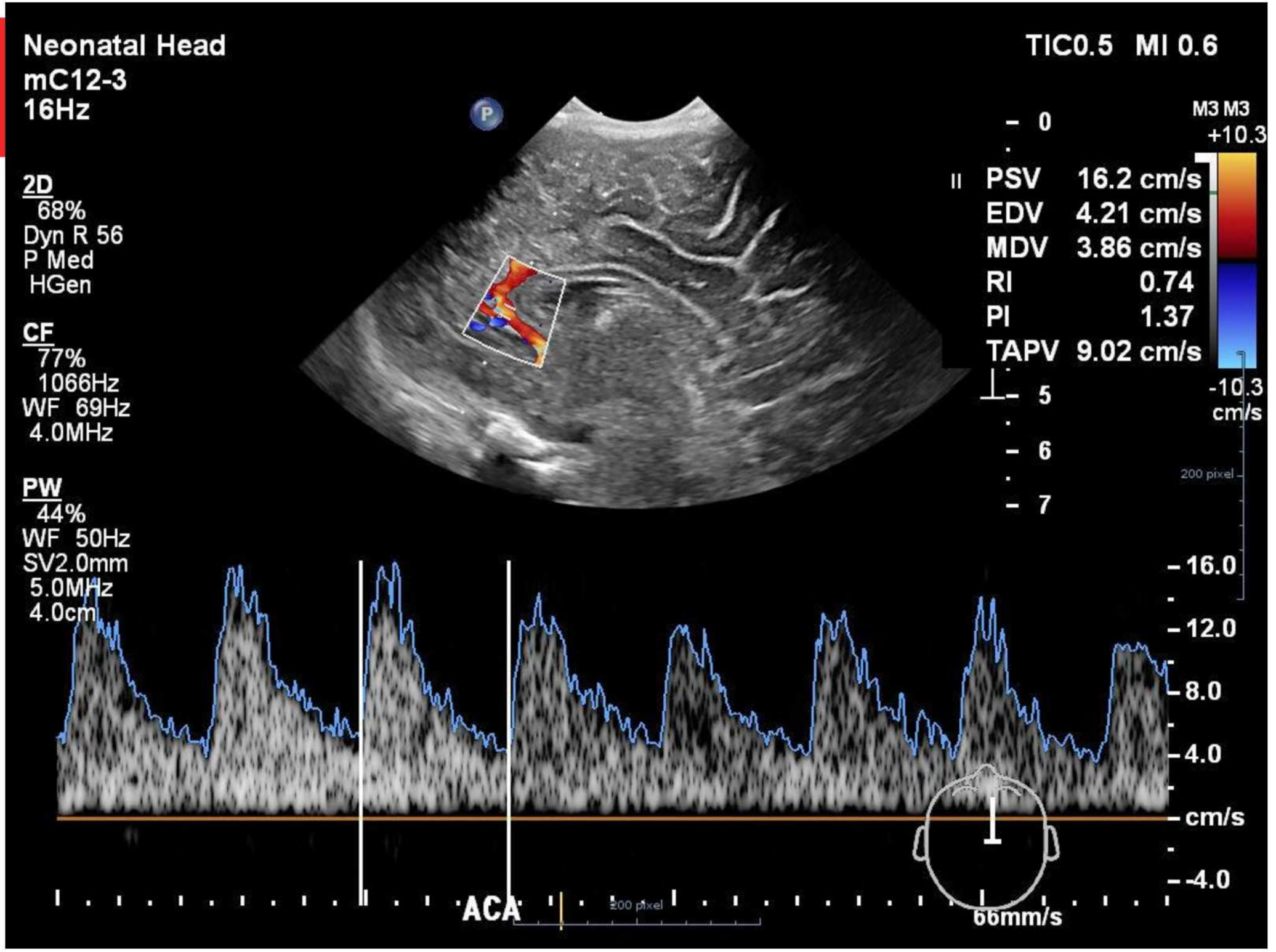

E
WM
CP

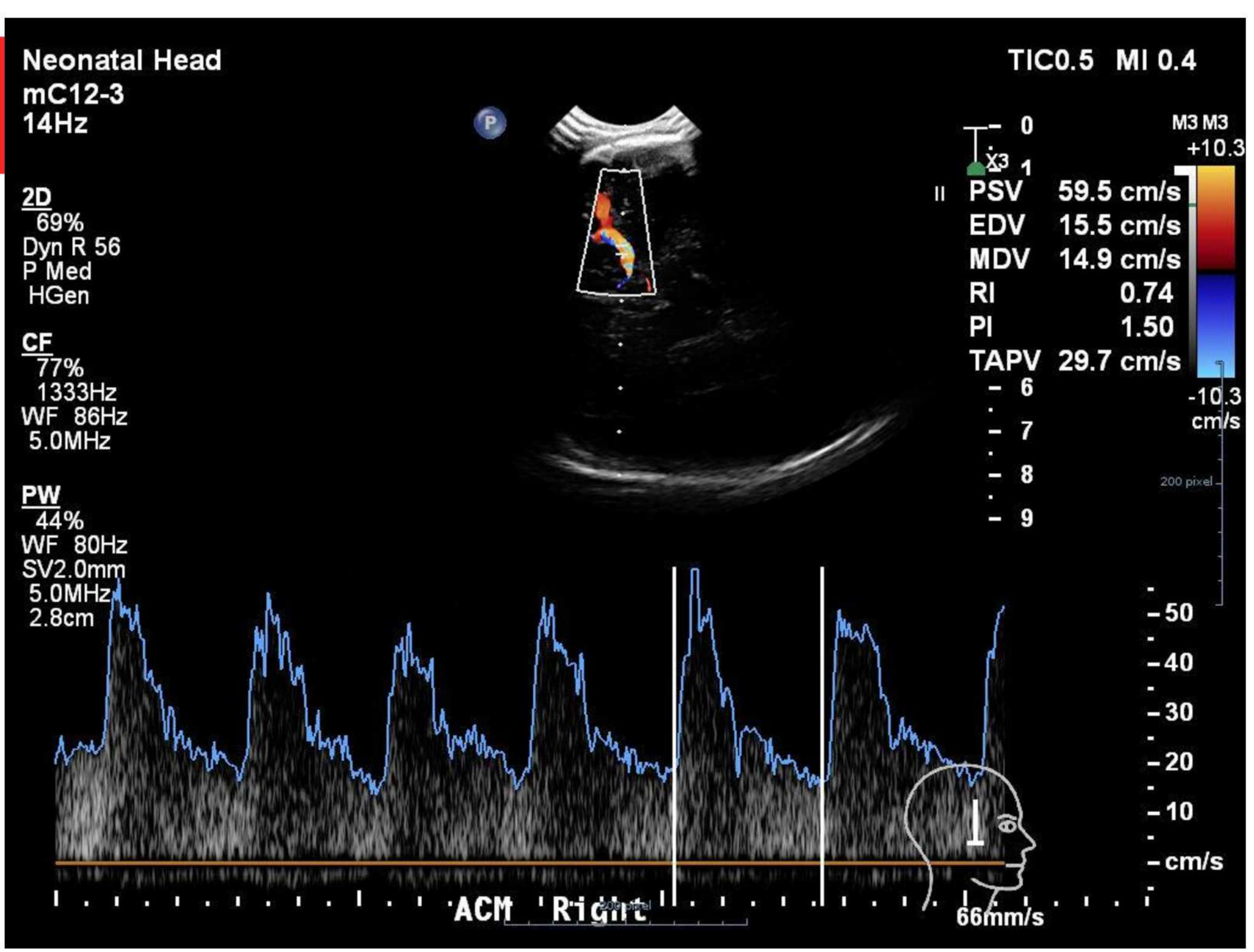

F
WM

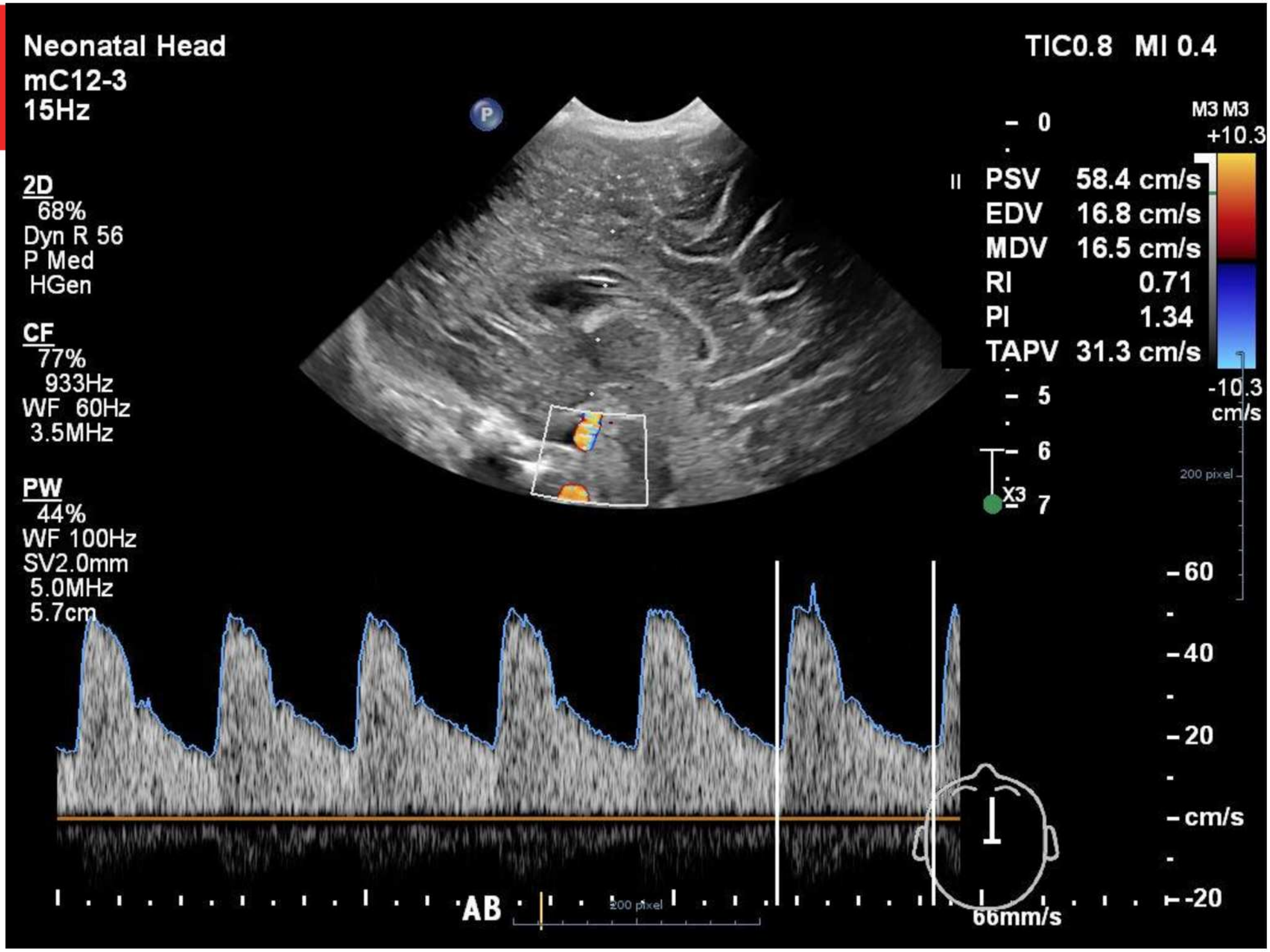

A
FL
3V
OL
M
4V
CV
B
FL
C
VL
T
OL
C
PL
FL
TL


T
SS
CWM
CM
CP
CV
CC

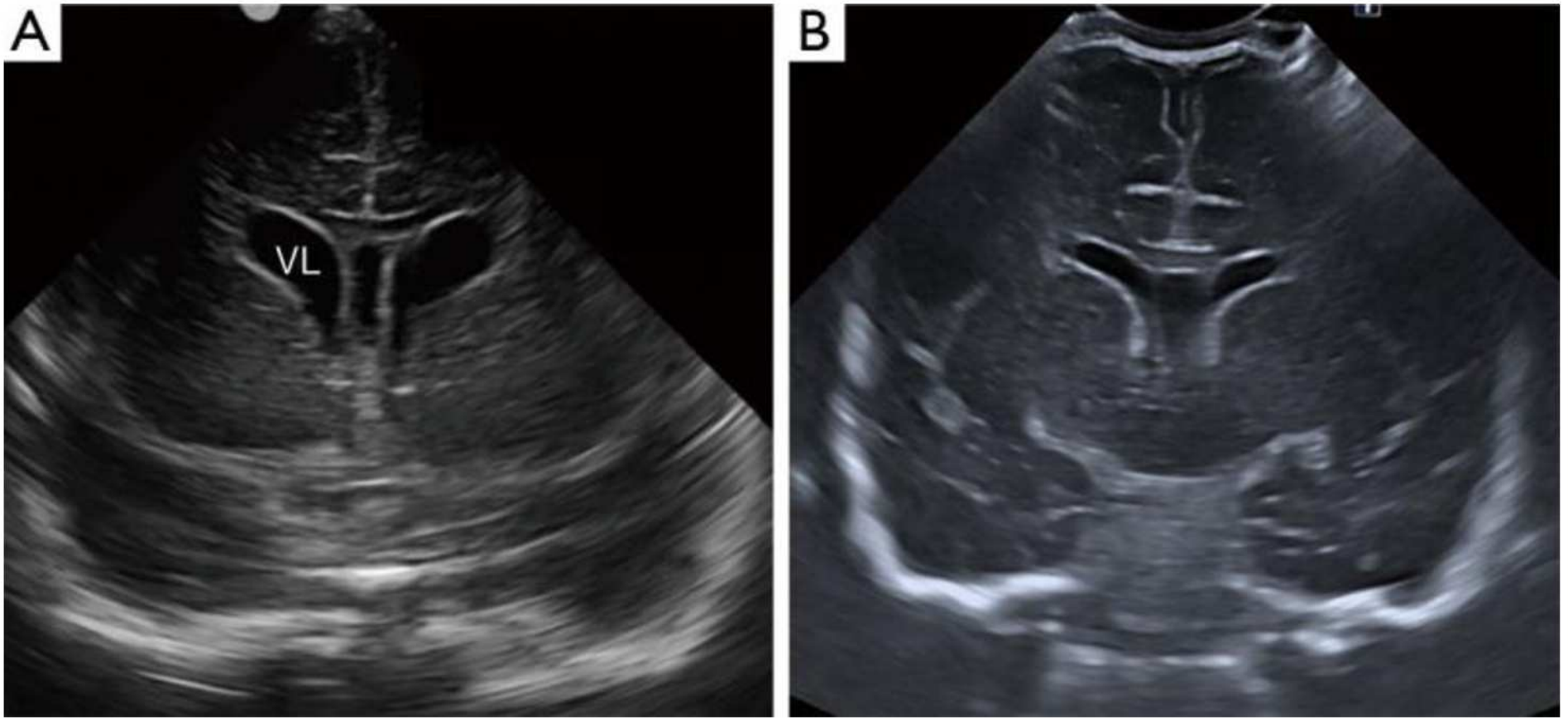

T
SS
CM
4V
M

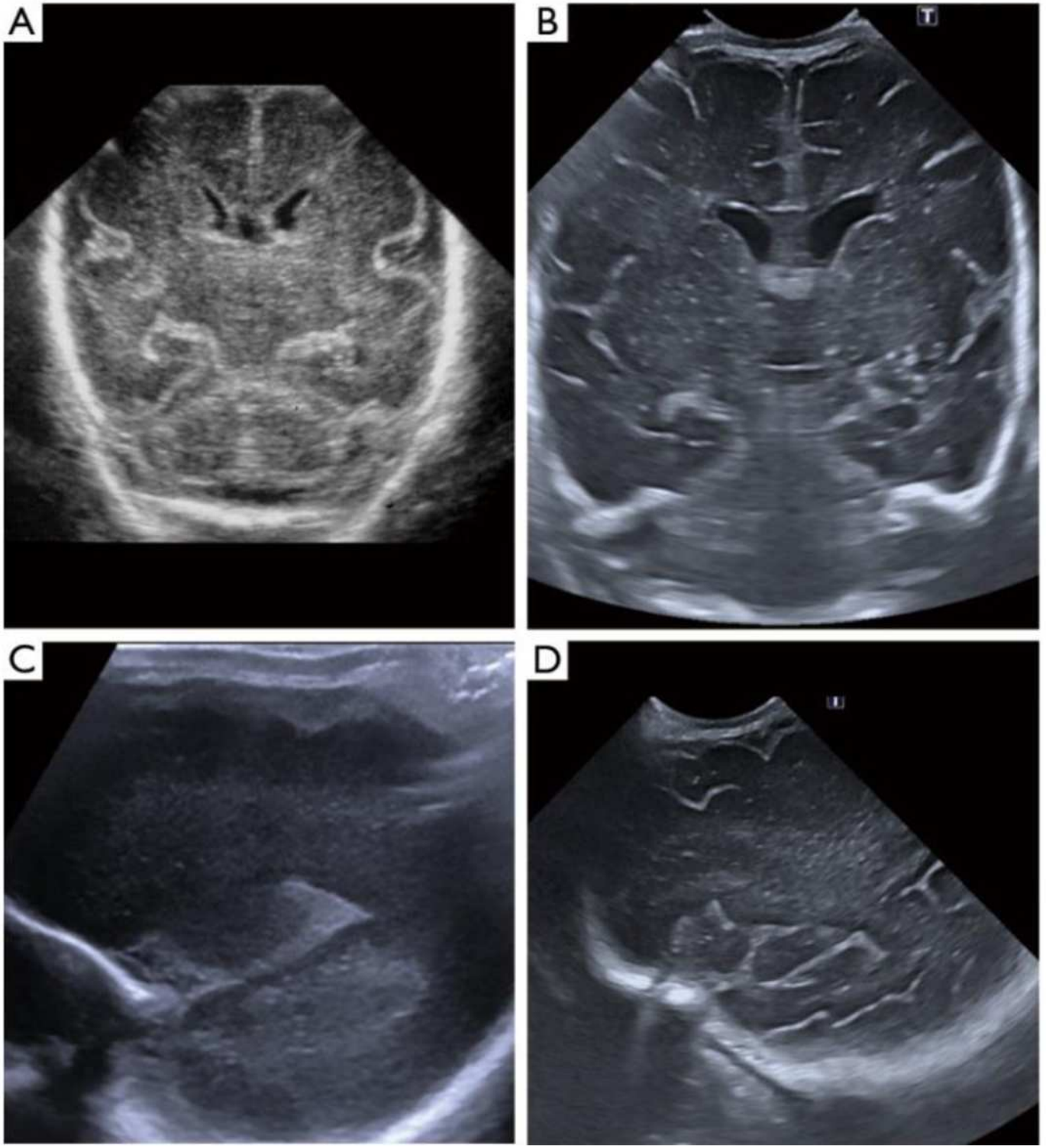

Neonatal Head
mC12-3
16Hz
TIC0.5 MI 0.6
2D
68%
Dyn R 56
P Med
HGen
CF
77%
1066Hz
WF 69Hz
4.0MHz
PW
44%
WF 50Hz
SV2.0mm
5.0MHz
4.0cm
M3 M3
+10.3
-10.3
cm/s
PSV 16.2 cm/s
EDV 4.21 cm/s
MDV 3.86 cm/s
RI 0.74
PI 1.37
TAPV 9.02 cm/s
0
5
6
7
200 pixel
16.0
12.0
8.0
4.0
cm/s
-4.0
ACA
200 pixel
66mm/s

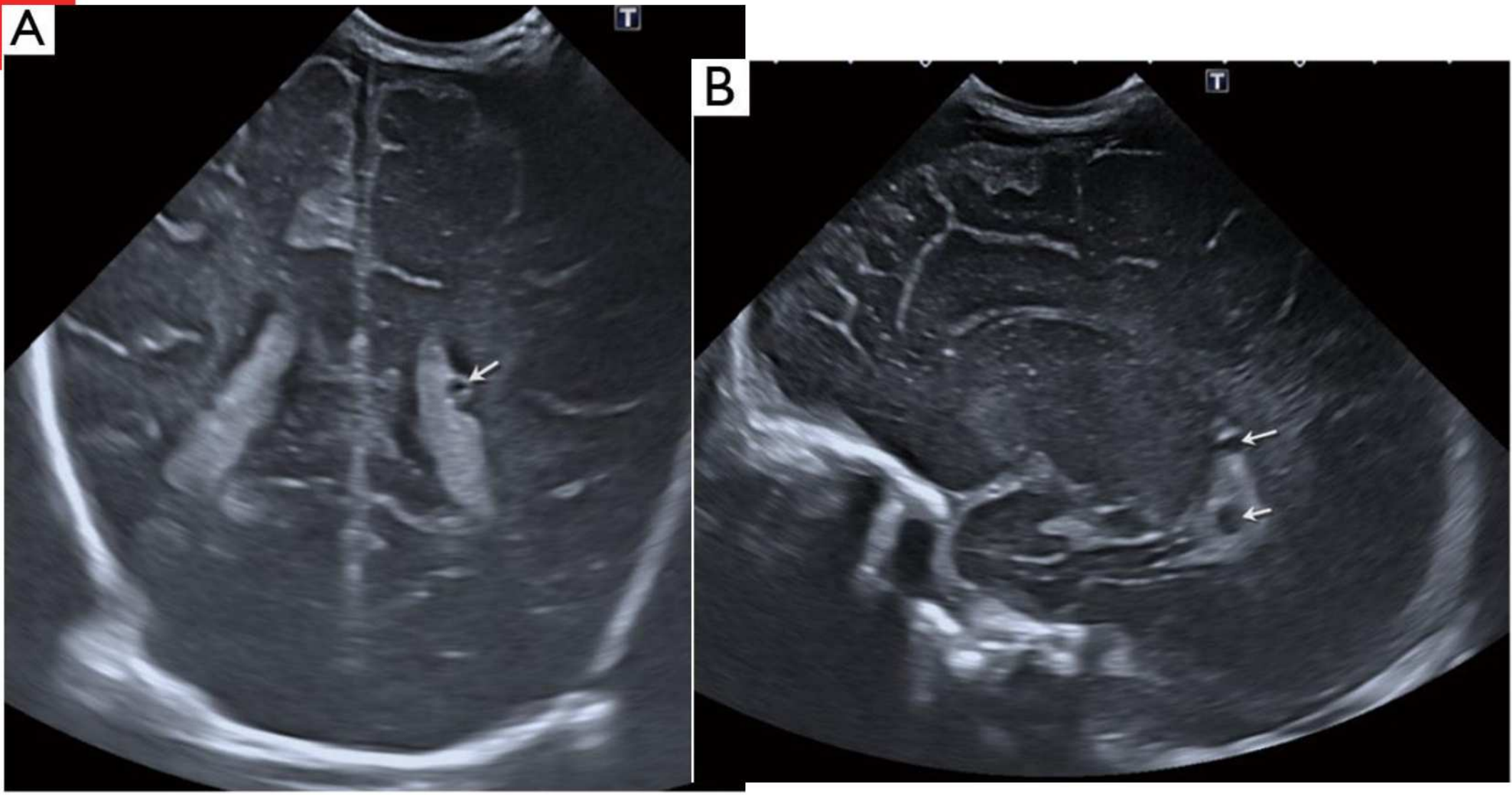

Neonatal Head
mC12-3
14Hz
TIC0.5 MI 0.4
2D
69%
Dyn R 56
P Med
HGen
CF
77%
1333Hz
WF 86Hz
5.0MHz
PW
44%
WF 80Hz
SV2.0mm
5.0MHz
2.8cm
PSV 59.5 cm/s
EDV 15.5 cm/s
MDV 14.9 cm/s
RI 0.74
PI 1.50
TAPV 29.7 cm/s
M3 M3
+10.3
-10.3
cm/s
200 pixel
0
1
6
7
8
9
50
40
30
20
10
cm/s
ACM Right
66mm/s


Neonatal Head
mC12-3
15Hz
TIC0.8 MI 0.4
2D
68%
Dyn R 56
P Med
HGen
CF
77%
933Hz
WF 60Hz
3.5MHz
PW
44%
WF 100Hz
SV2.0mm
5.0MHz
5.7cm
M3 M3
+10.3
-10.3
cm/s
PSV 58.4 cm/s
EDV 16.8 cm/s
MDV 16.5 cm/s
RI 0.71
PI 1.34
TAPV 31.3 cm/s
200 pixel
X3
60
40
20
cm/s
-20
AB
200 pixel
66mm/s

Mõned sagedasemad normivariandid



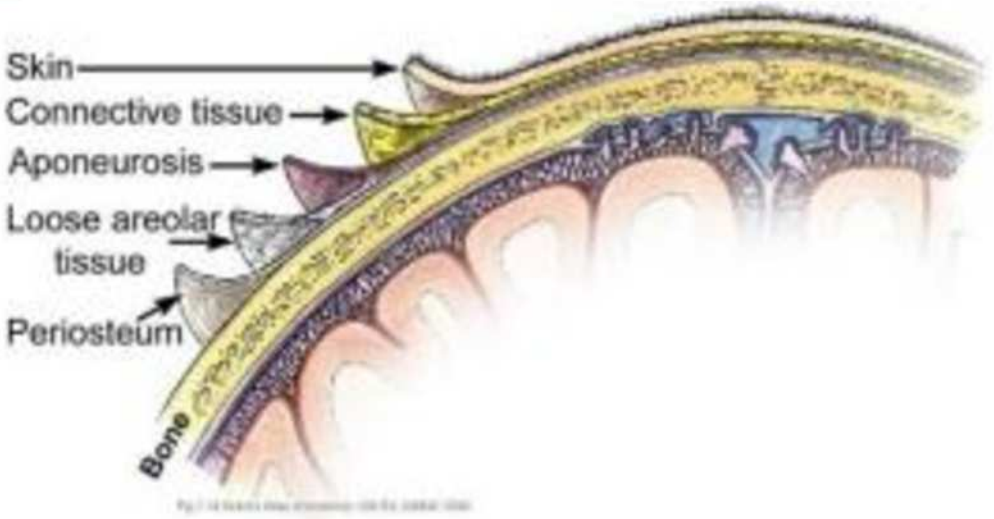

A
B
C
D

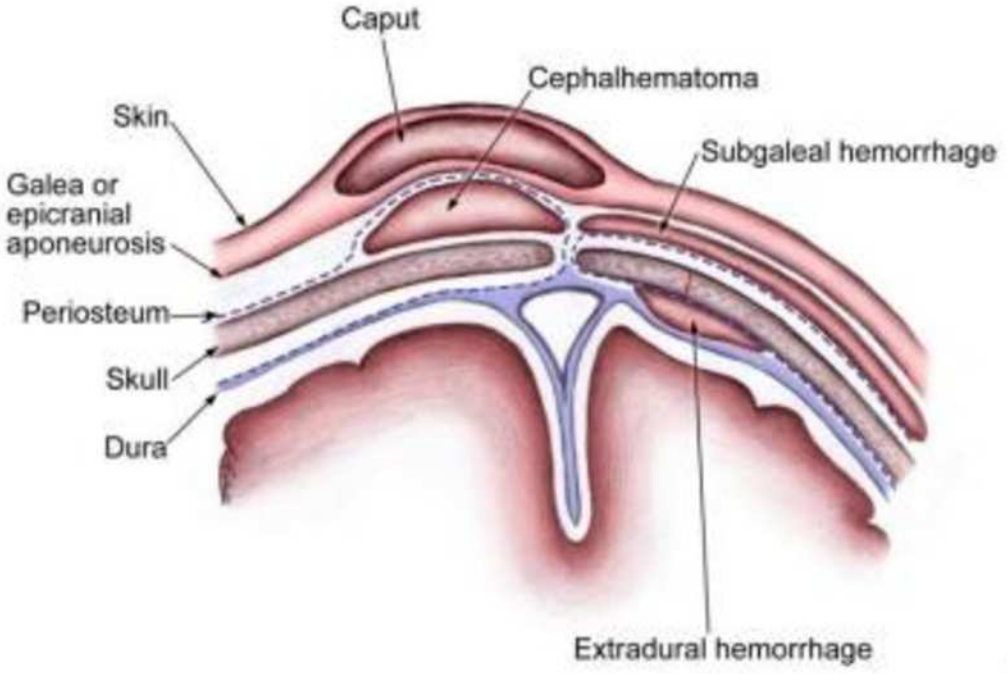

A
B

BOONUS: ekstrakraniaalsed hematoomid, haigusjuhud

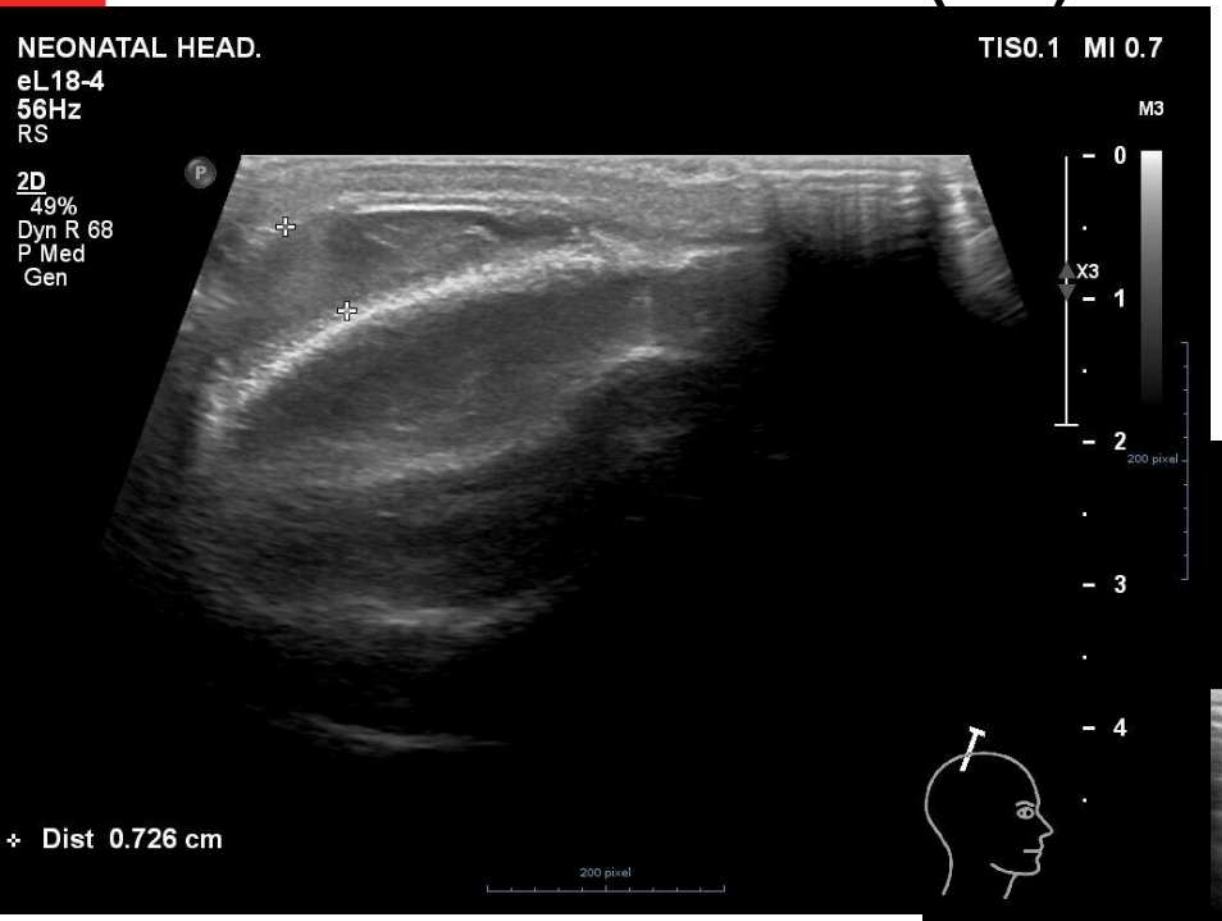
- 28.03.2023 EMOst kaks poisslast
- 1) 14p vastsündinu, Paremal parietaalluuga piirdunult pehme moodustis - sünnimuhk? Tsefaalhematoom?
- 2) 1k6 p vanune imik, al 25.03 pealael pehme fluktueeruv munajas moodustis. Kefaalhematoom?
- Mõlemad sündinud vaakumekstraktsiooni abiga

Hematoomid

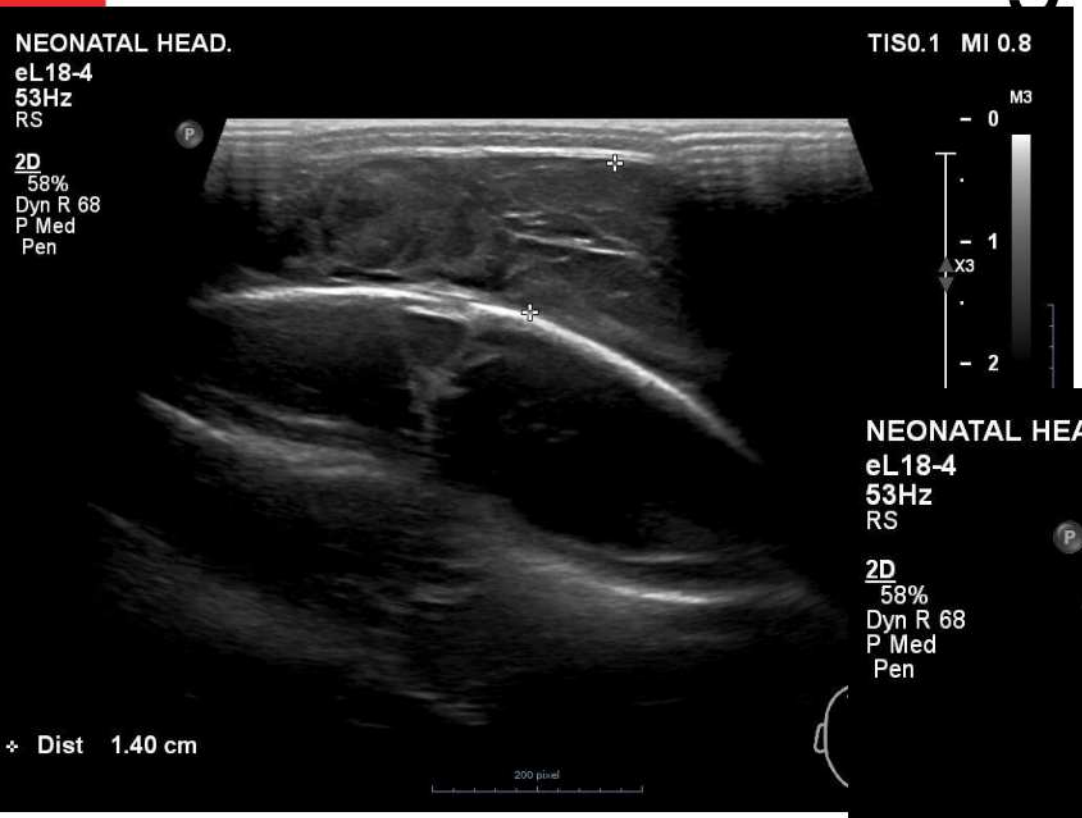

Skin
Connective tissue
Aponeurosis
Loose areolar tissue
Periosteum
Bone

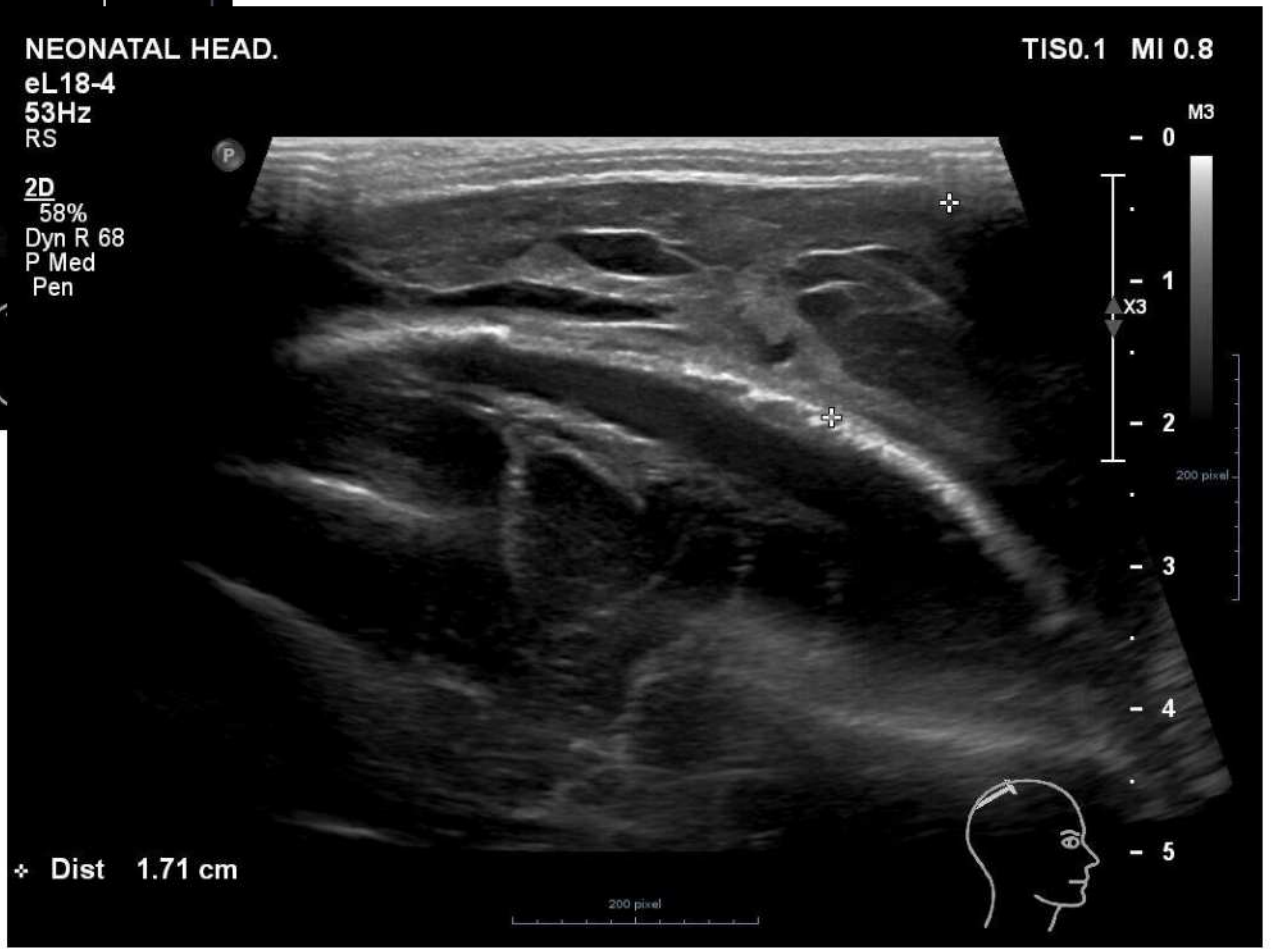

Caput
Cephalhematoma
Skin
Subgaleal hemorrhage
Galea or epicranial aponeurosis
Periosteum
Skull
Dura
Extradural hemorrhage

Patsient 1: k(ts)efaalhematoom



Patsient 2: subgaleaalhematoom





Tänud!

- Suured tänud dr Merli Ilvesele ja dr Ionella Rebasele piltide eest!
- Kasutatud kirjandus:

Cranial ultrasound for beginners https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8107866/

Management of Subgaleal Haemorrhage in Neonatal Transport https://www.rch.org.au/uploadedFiles/Main/Content/piper/PIPER%20Neonatal%20-%20Management%20of%20Subgaleal%20Haemorrhage%20in%20Neonatal%20Transport.pdf

Radiopedia https://radiopaedia.org/articles/fontanelle ja teised.

Radiology assistant https://radiologyassistant.nl/pediatrics/spine/neonatal-brain-us