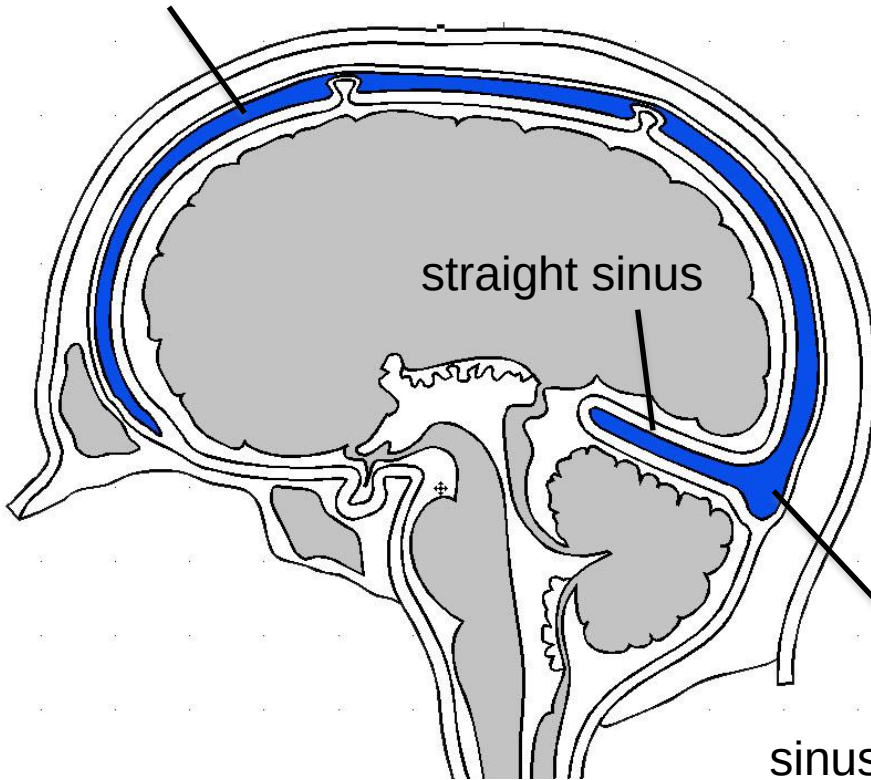
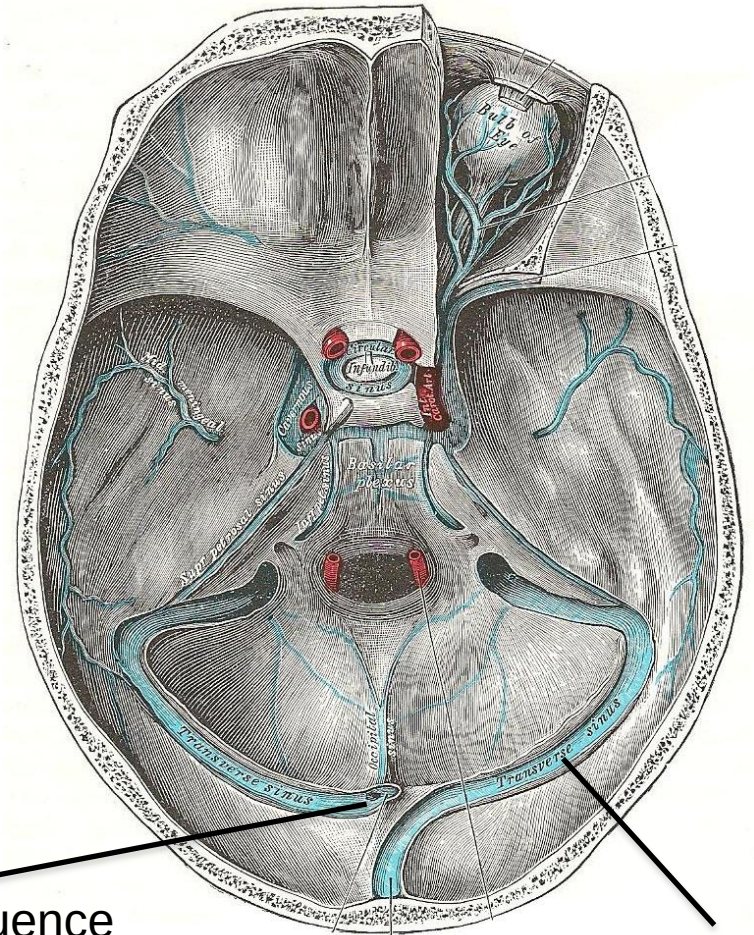


The dural venous sinuses

superior sagittal sinus



sinus confluence
(*torcular Herophili*)

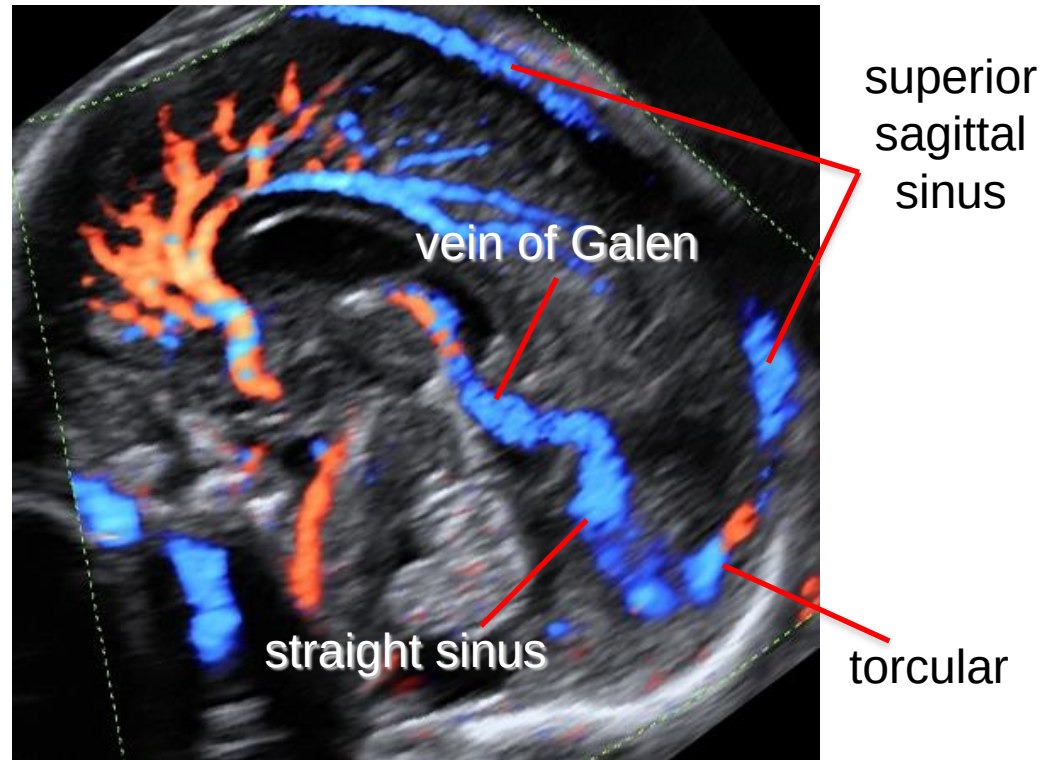
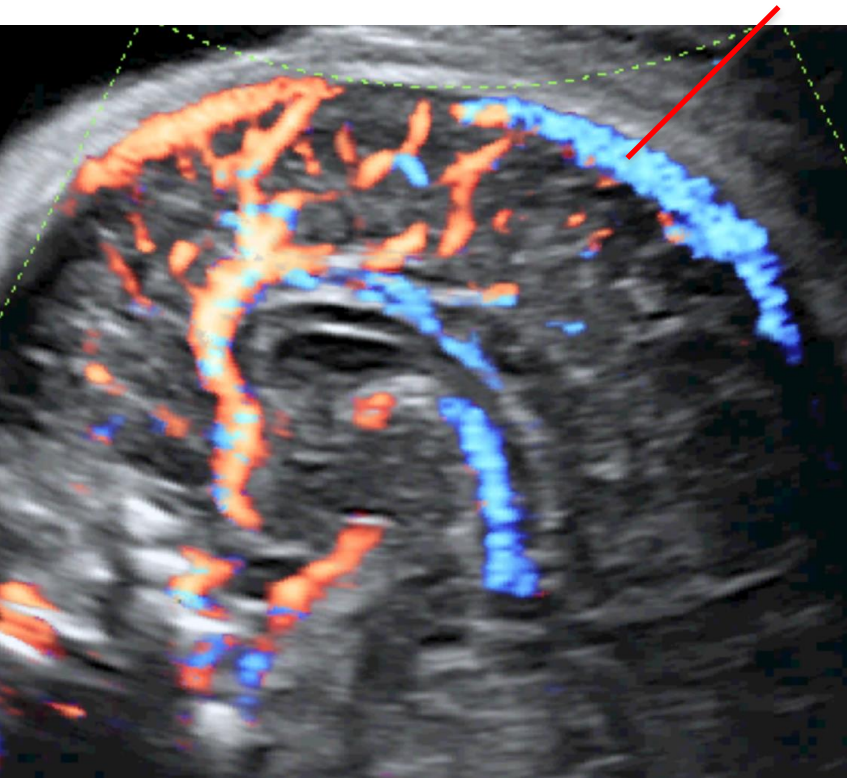


transverse sinus

The dural sinuses are venous channels coursing between layers of dura mater. The sinus confluence, or *torcular Herophili* is found at the intersection of the cerebral falx with the cerebellar tentorium and is connected superiorly to the superior sagittal sinus and laterally to the transverse sinuses

Sonography of fetal dural sinuses

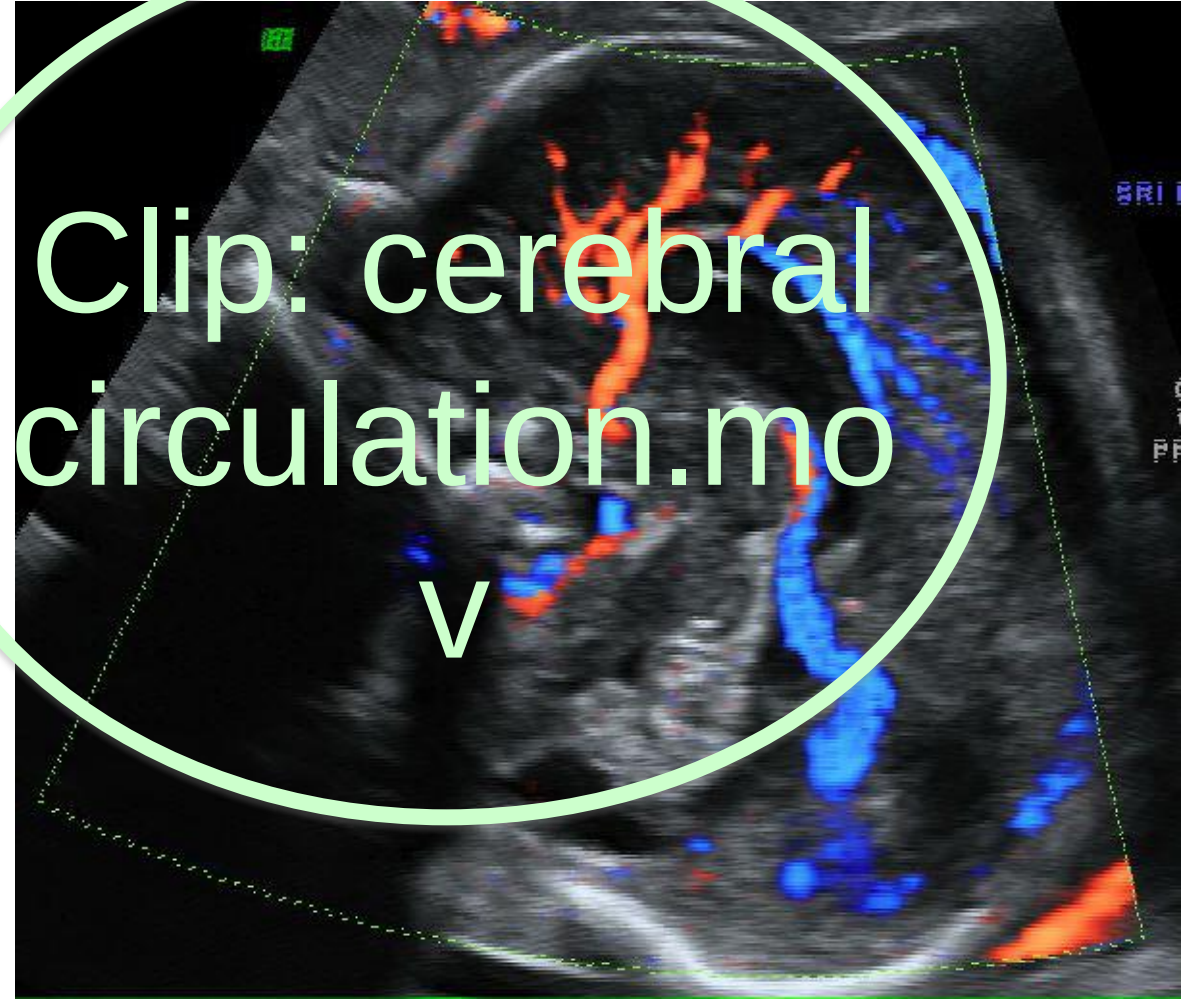
superior sagittal sinus



Dural sinuses are not a part of the standard sonographic examination of the fetus but they can be demonstrated using Color Doppler imaging; in a median view of the brain the confluence of the superior sagittal sinus and straight sinus into the torcular is seen

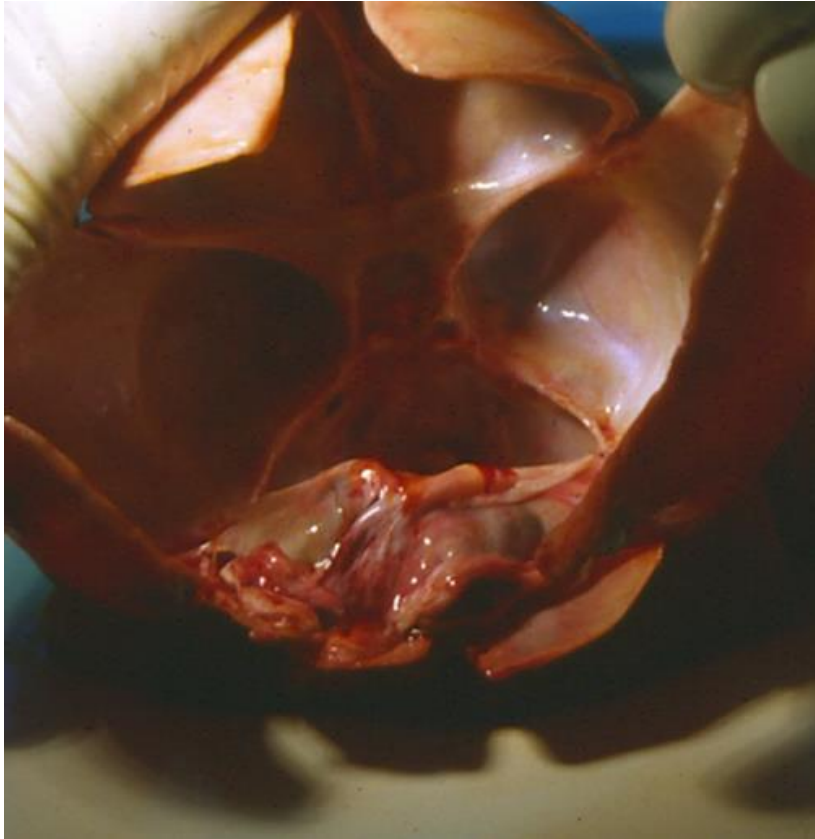
Cerebral circulation

Color Doppler demonstration of the cerebral circulation: the vein of Galen is seen entering into the straight sinus; the straight sinus and superior sagittal sinus are joined by the torcular herophili

A color Doppler ultrasound image showing cerebral blood flow. The image is framed by a green circle. The text 'Clip: cerebral circulation.mo' is overlaid in green, with a large green 'v' below it. The image shows a network of blood vessels with red and blue color coding indicating flow direction and velocity. The background is dark with some anatomical structures visible in grayscale.

Clip: cerebral
circulation.mo
v

Thrombosis of the torcular Herophili

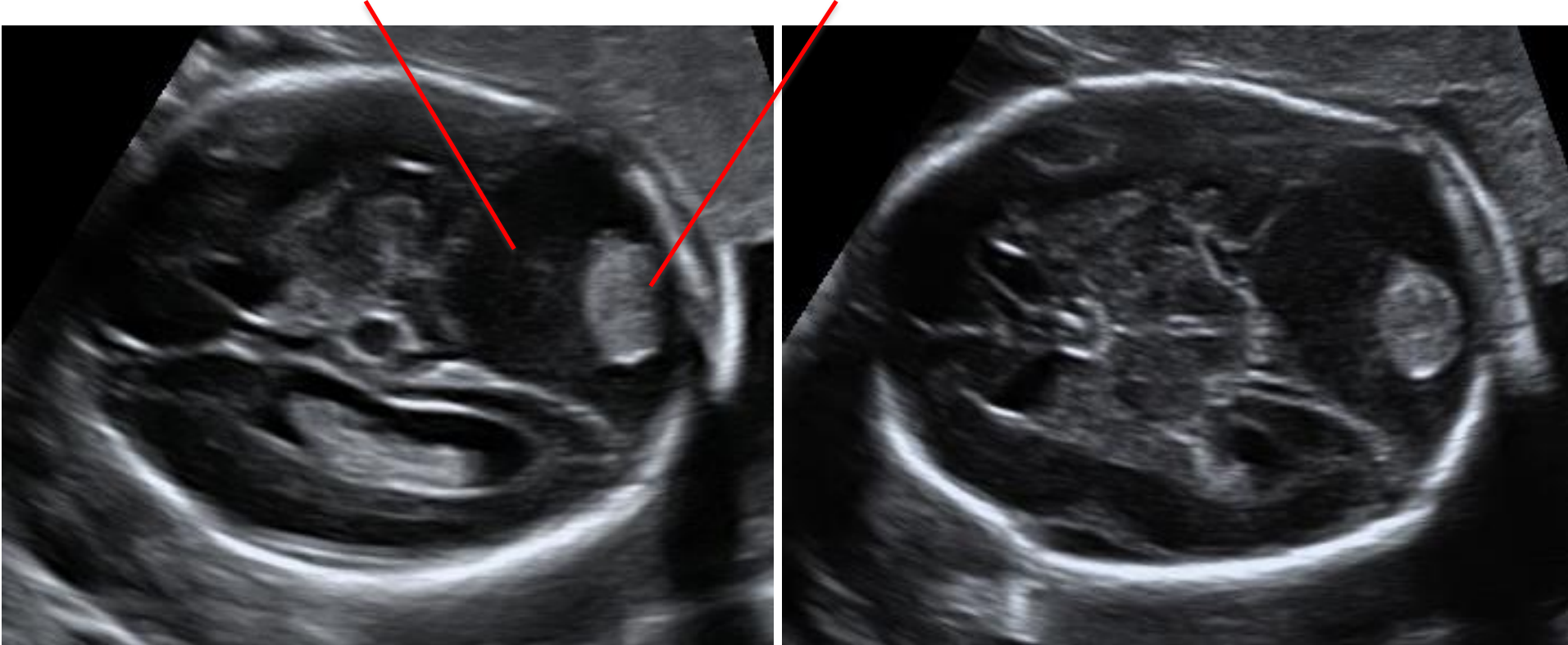


Thrombosis of the dural sinuses in the perinatal period occurs most frequently at the level of the torcular Herophili; this usually results in a large clot at the level of the torcular as well as in gross dilatation of the superior sagittal and transverse sinuses.

Sonography of torcular thrombosis: axial views

fluid collection

thrombus



On ultrasound the most prominent finding is the presence of a fluid filled collection in the occipital area; within the fluid collection is usually possible to identify an echogenic ovalar area corresponding to the thrombus

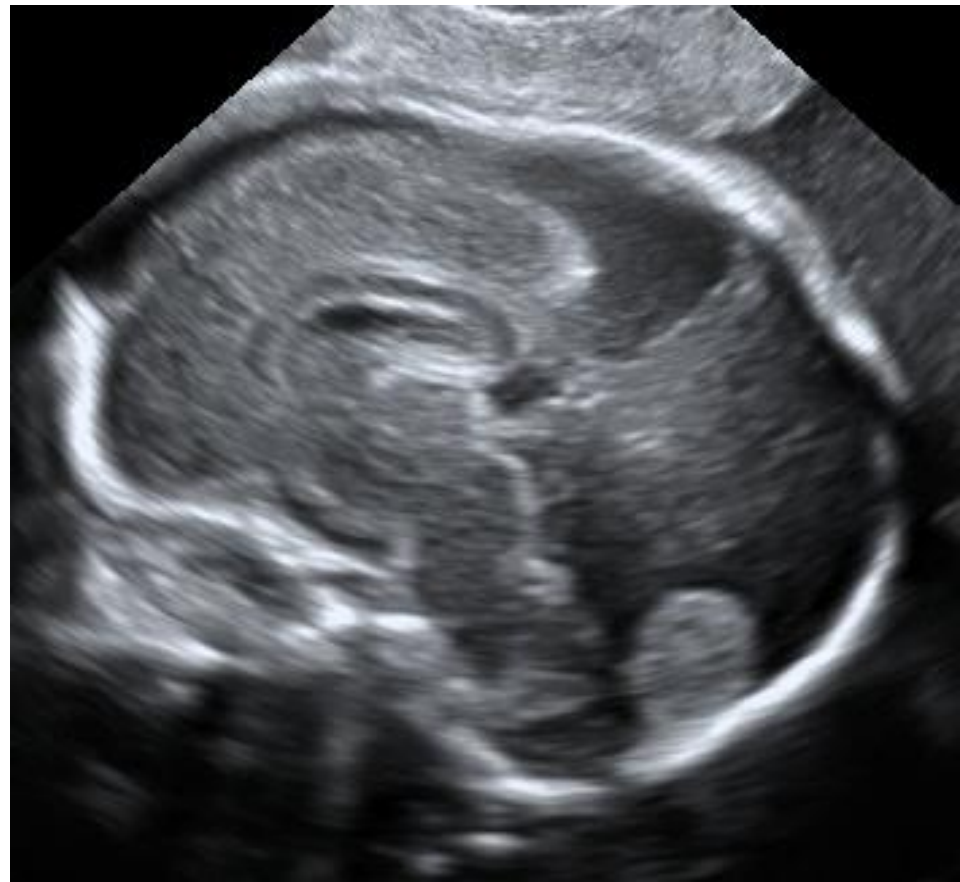
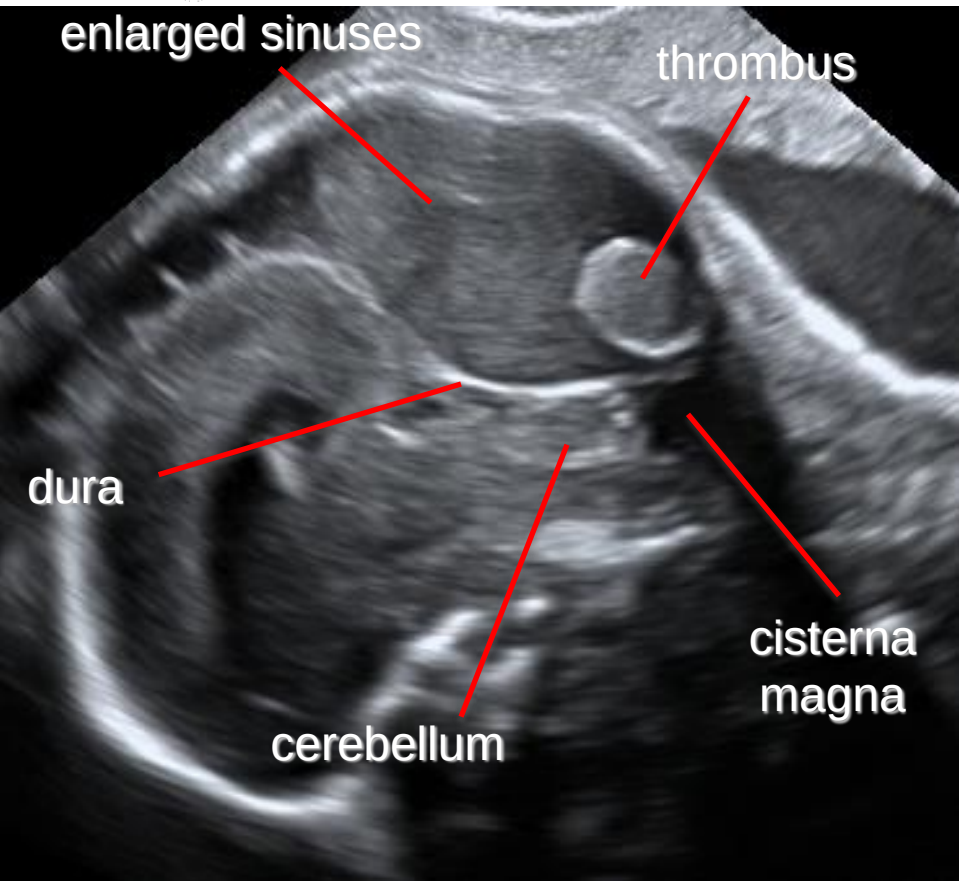
Thrombosis of the torcular *Herophilii*: axial sweep

The fluid collection is blood distending the superior sagittal sinus and it has therefore a corpuscolated appearance; in the area of the torcular usually an echogenic clot is found; the posterior fossa is frequently compressed and displaced caudally

This is a clip: Torcular thrombosis.avi



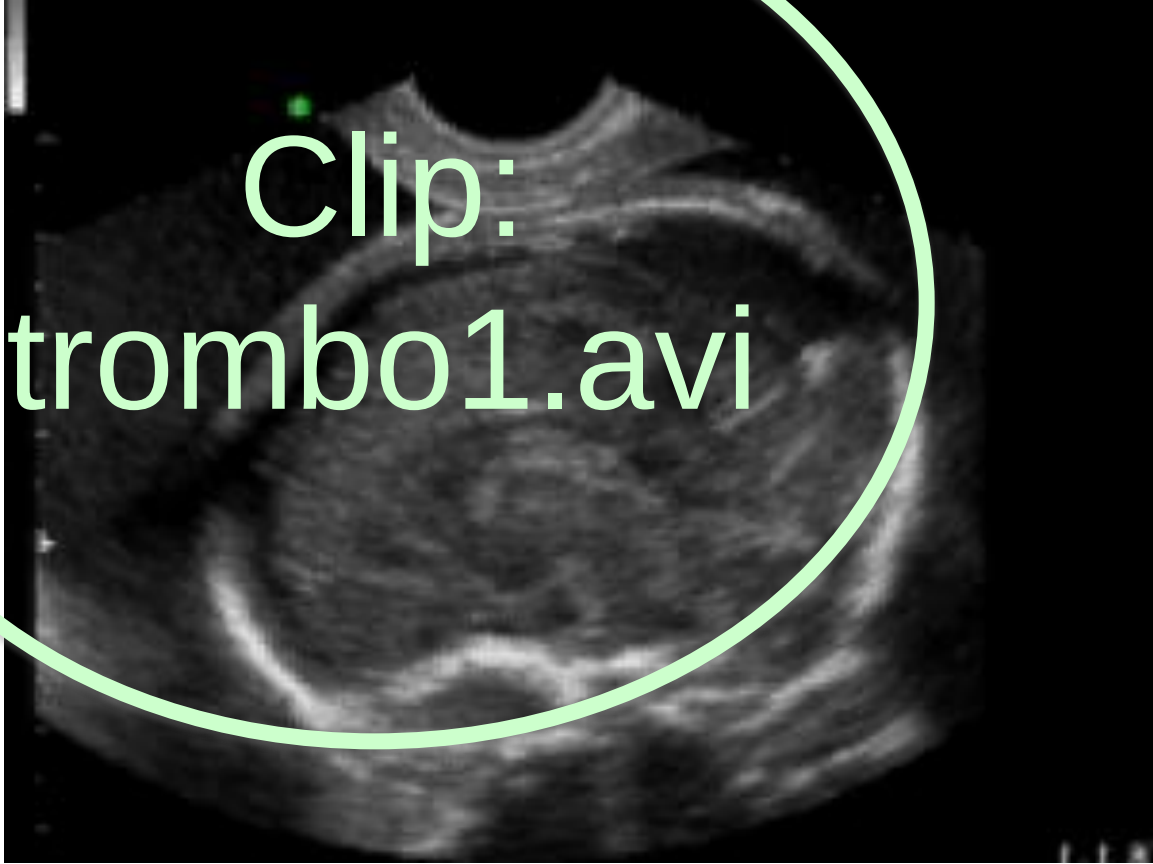
Sonography of torcular thrombosis: median views



Median view of the brain are most helpful as they demonstrate that the fluid collection is corpuscolated, has a thick outline (the dura mater) and has mass effect on the hemispheres and posterior fossa, displacing anteriorly the cerebellum and cisterna magna

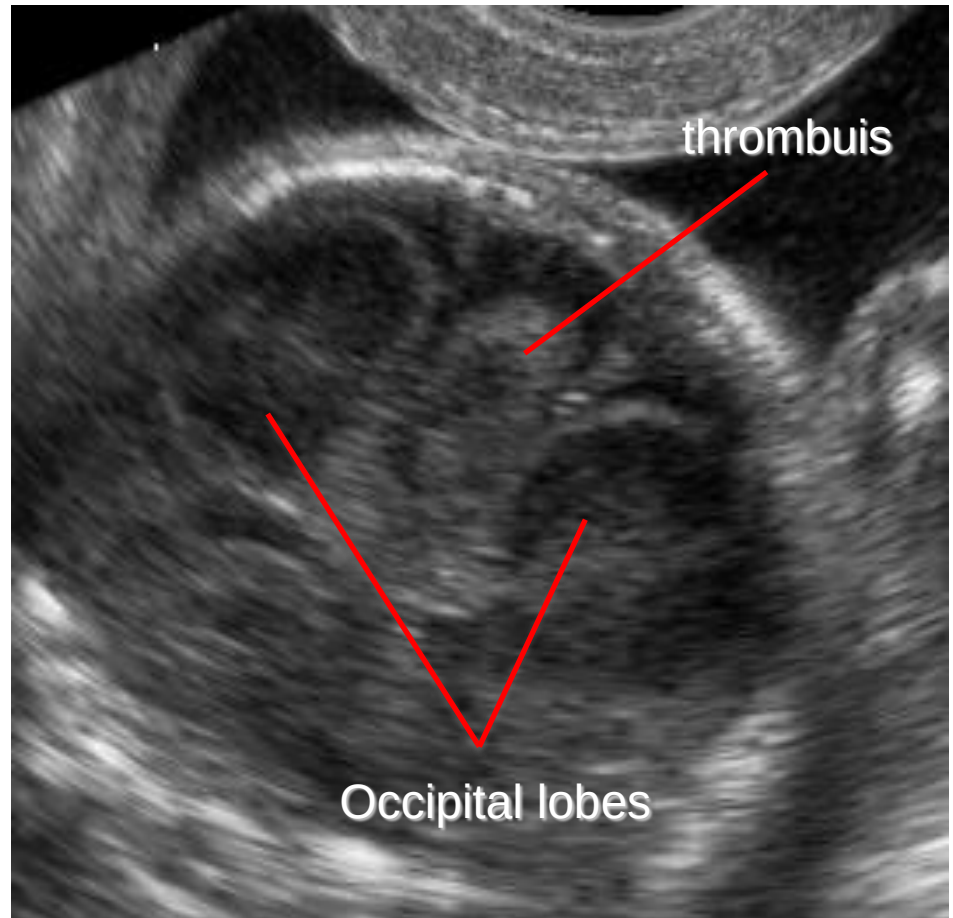
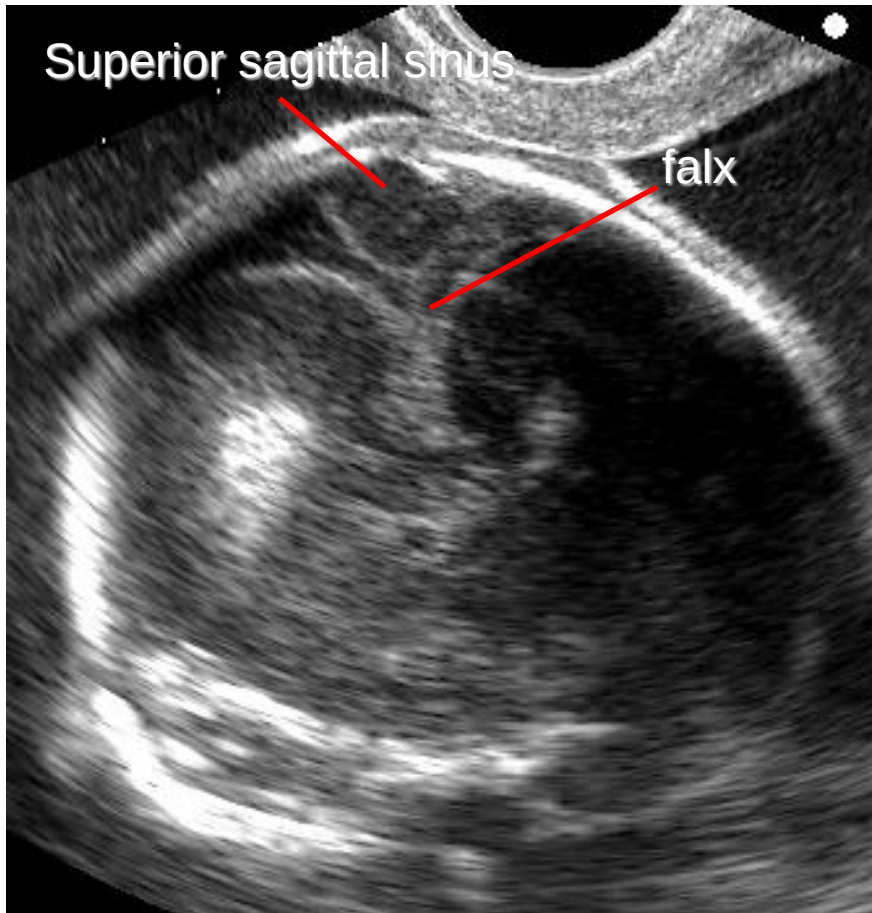
Vaginal sonography: sagittal view

Vaginal scan demonstrating
a complex mass in the
occipital area compatible
with torcular thrombosis



Clip:
trombo1.avi

Sonography of torcular thrombosis: coronal views



Coronal views confirm the dilatation of the dural sinuses and the presence of the thrombus

Vaginal sonography: coronal view

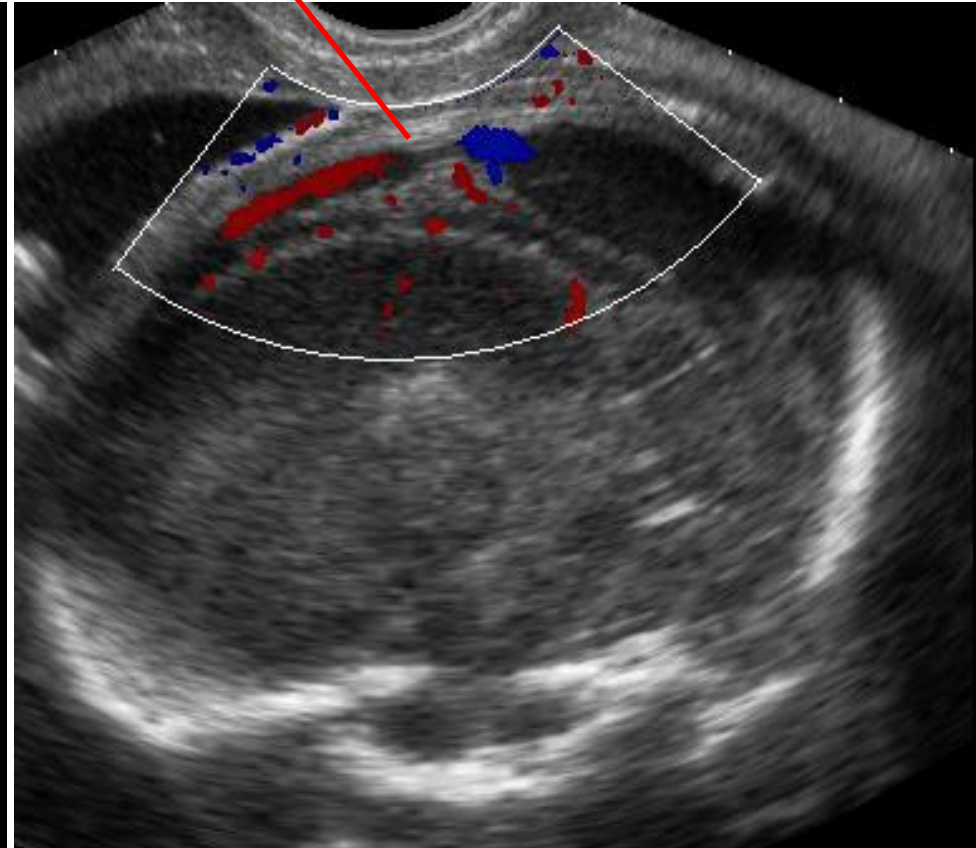
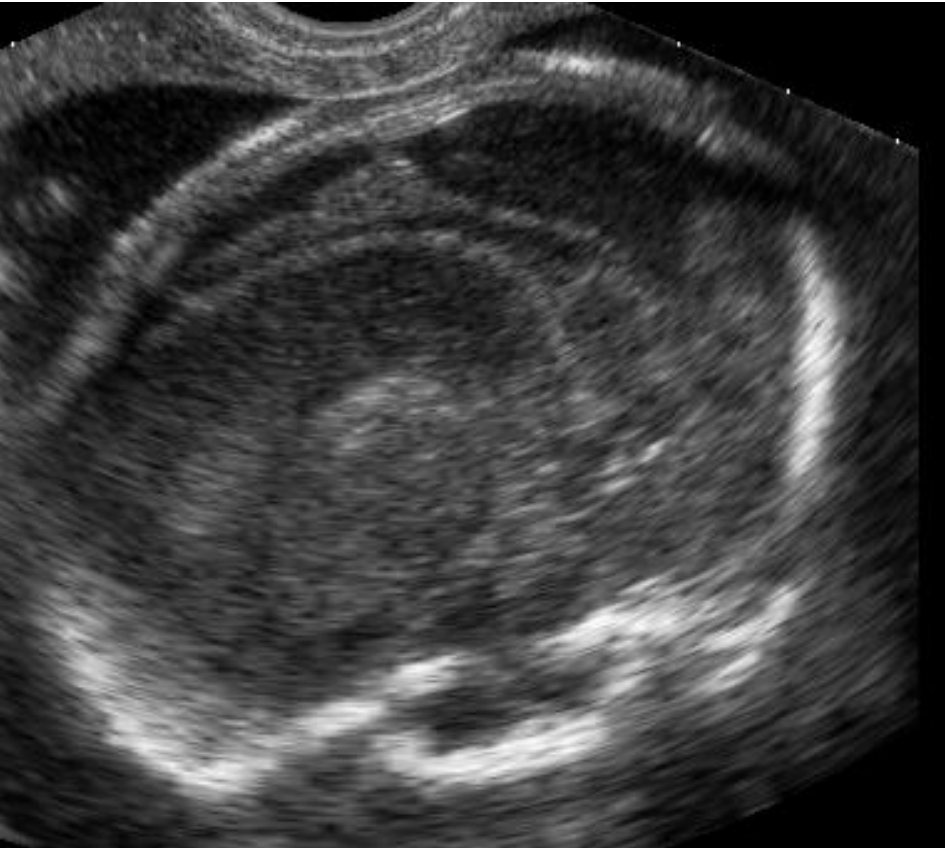
A close up of the occipital area demonstrates the echogenic thrombus within the enlarged dural sinuses

A grayscale B-mode ultrasound image showing a coronal view of the pelvic region. A large, bright, echogenic area is visible, indicating a thrombus within an enlarged dural sinus. The image is framed by a green circle.

Clip:
trombo3.avi

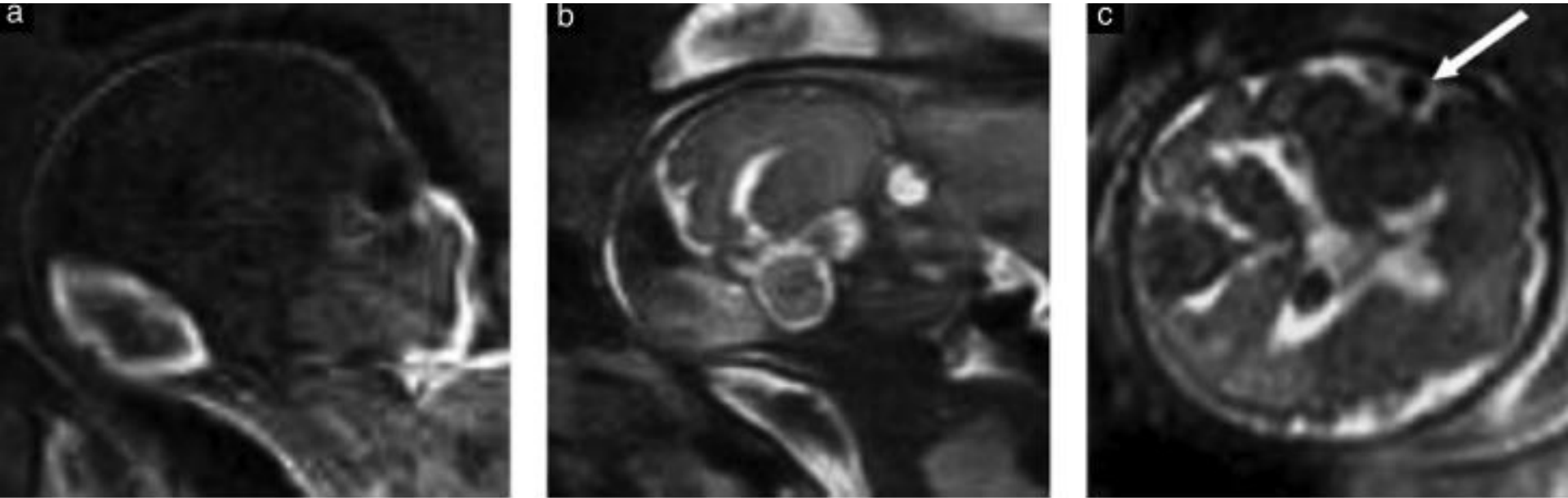
Color Doppler sonography of torcular thrombosis

Superior sagittal sinus



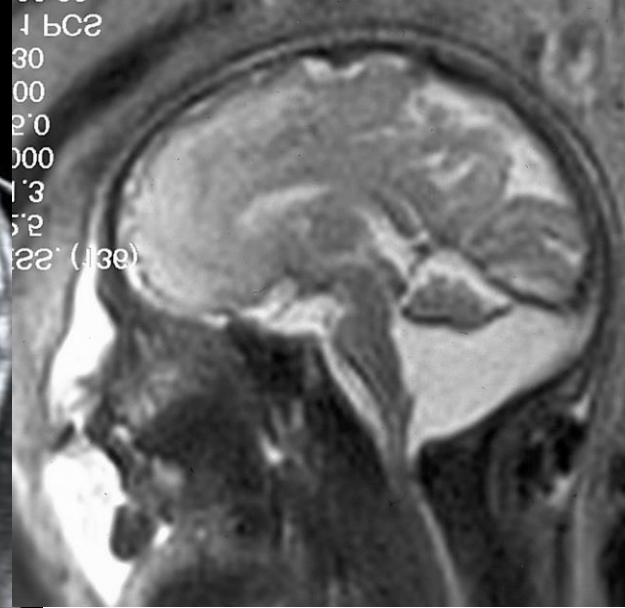
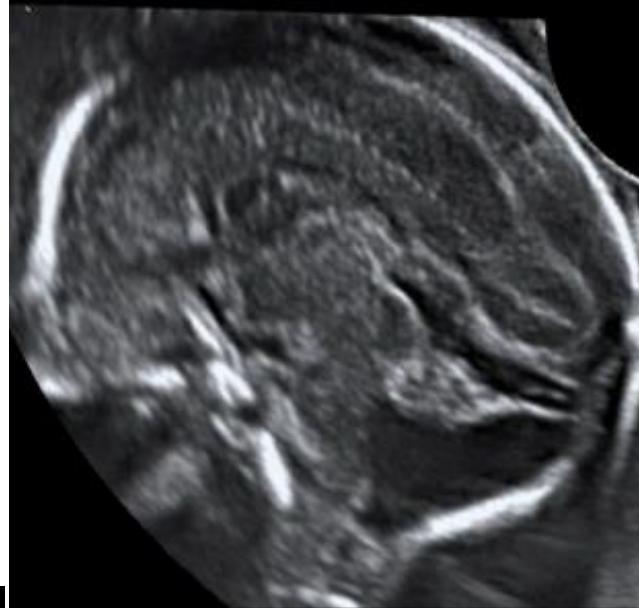
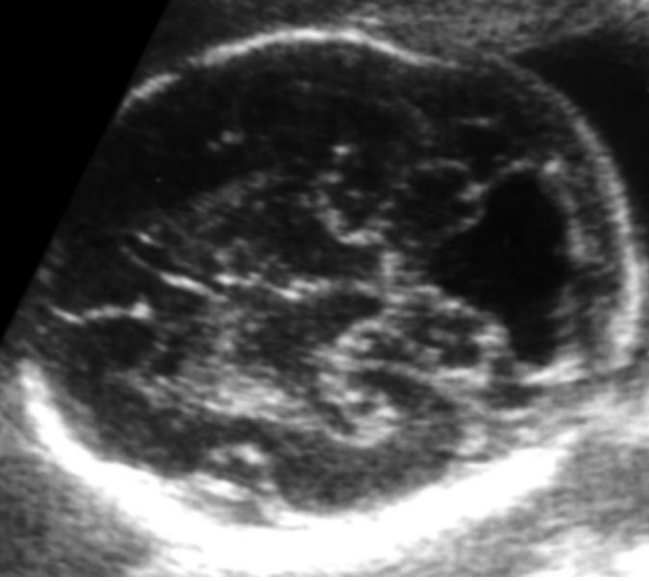
Color Doppler usually demonstrate arrest of blood flow in the dilated cerebral sinuses

Magnetic resonance of thrombosis of the torcular Herophili



(a) T1-weighted image at 31 weeks demonstrating thrombus of the torcular; note the associated hypersignals and hyposignals due to different evolution of the thrombosis. Sagittal (b) and axial (c) T2-weighted images show thrombosis of the torcular, right transverse sinus and of the left sphenoparietal sinus (arrow).

Differential diagnosis: Dandy-Walker malformation



Differential diagnoses of torcular thrombosis include intracranial cysts and Dandy-Walker malformation in particular that may be associated with large fluid filled collections in the occipital area. Sagittal views are most helpful in demonstrating the enlargement of the cisterna magna and rotation of the vermis. MR may also be helpful in demonstrating the presence of blood in thrombosis versus clear fluid in intracranial cysts