

Dural Sinus Thrombosis

Patient Information Series – What you should know, what you should ask.

What is Dural Sinus Thrombosis?

Within the brain, veins drain and empty blood into dural venous sinuses within the subarachnoid space (between layers of the meninges). These sinuses then join posteriorly in the brain in an area in which blood clots known as dural sinus thrombosis might form. These clots present as bright (echogenic) masses which can occlude the blood flow and cause fluid collection in the posterior fossa of the brain. Prenatal diagnosis of dural sinus thrombosis is extremely rare with just a few cases reported in the literature.

What causes Dural Sinuses Thrombosis?

The causes behind dural sinuses thrombosis antenatally remains unknown. However, by extrapolating what we know about dural sinuses thrombosis that occur in the infant, infection, dehydration and trauma have all been proposed as predisposing factors. Other factors such as maternal thrombophilia and pre-eclampsia are also thought to play a role.

How is Dural Sinuses Thrombosis diagnosed?

In the limited number of cases reported antenatally, the diagnosis was made in the second trimester by a combination of transabdominal and transvaginal (internal) ultrasound to visualise the dural sinuses and how the blood flows within them. Suspicion was raised after identifying a fluid collection in the posterior aspect of the brain with a structure compatible with a blood clot, and diagnosis was then confirmed by further assessing the fetus with magnetic resonance imaging.

Should I have more tests done?

If dural sinus thrombosis is suspected, further evaluation should be carried out by an expert in Fetal Medicine, and special attention should be given to distinguish this condition from other similarly presenting anomalies such as intracranial cysts and tumours. Even though the condition tends to be isolated, additional evaluation should include a detailed exam of all other organs by ultrasound, which will inform prognosis and guide further management. Fetal magnetic resonance of the fetus should be offered to complement ultrasound findings and confirm diagnosis.

What is the prognosis?

Outcomes are variable and range from complete resolution and recanalization of the sinuses to permanent brain damage and/or perinatal death. Predicting how each antenatal case will evolve is quite challenging but the presence of associated fetal anomalies, progressive enlargement of the dural sinuses and abnormal placental vascularisation have been proposed as poor prognostic factors and might inform clinical management.

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What other questions should I ask?

- Are there any other abnormalities on the ultrasound?
- How often should I have ultrasound examinations?
- Where should I deliver?
- Can I meet the team of doctors that will be assisting my baby when it is born in advance?

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