



Images

Giant transient dural sinus dilatation with neonatal nuchal cord

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1. Delivery

This male child was born at term via an emergency cesarean section with symptoms of fetal distress manifested by reduced movements, abnormal heart rate, Apgar scores of 1 and 6, and an arterial cord pH of 6.93. A tight double nuchal cord was noticed that was immediately released. Stabilization included positive pressure ventilation with 100% oxygen, inhaled nitric oxide, and hypothermia for neuroprotection. No evidence of placental abruption or fetal–maternal hemorrhage was observed, and his hemoglobin level was 108 g/l (see [Image 1](#)).

2. Course

After 72 h of therapeutic hypothermia with continuous electroencephalogram surveillance without seizures, no hypoxic changes were detected in the cranial magnetic resonance imaging (MRI), but there was an unexpectedly marked dilatation of the intracranial sinuses, a finding that has not been reported in post-hypothermia neonates.¹ Follow-up imaging confirmed the absence of any underlying intracranial vascular malformation and normalization



Image 1 Magnetic resonance venography (MRV) of the sagittal multiplanar reconstruction (MPR) showing markedly enlarged dural sinuses in the superior sagittal and straight sinus.

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of the sinus calibers within 2 weeks of life. Coinciding with a secondary onset of focal seizures on day 12 of life, a new straight sinus thrombus and bilateral frontoparietal cortical areas of restricted diffusion were detected. At the age of 12 months, he exhibited moderate developmental delay.

3. Discussion

This case highlights a dramatic consequence of intracerebral blood stasis presumed to be caused due to a tight nuchal cord. This theory is supported by the observation of anemia caused due to fetoplacental transfusion along with umbilical vein compression, concurrent placental histology findings such as chorionic vessel dilatation, and strangulation pathomechanism.² Once a critical distension is reached, sinus dural support may hinder the resolution.³ Cases with fetal intrauterine venous sinus ectasia have been described in the setting of venous confluence thromboses or a vein of Galen malformation, which should be carefully excluded.⁴ Due to dilatation of intracranial capacitance vessels, giant dural sinuses may cause considerable brain compression, disseminated intravascular coagulation, and cardiac failure. The natural evolution of this condition is characterized by stratified thrombus formation with slow spontaneous regression up to 1 year, including a generally favorable outcome.⁵

4. Conclusion

This case study highlights a potentially clinically under-recognized consequence of neonatal nuchal cord that may result in adverse consequences.

COI statement

The authors have no conflicts of interest relevant to this article.

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