Bilateral perinatal arterial stroke in a neonate

Palaniappan Sashikumar,¹ Rajesh Gupta,¹ Brendon Conry²

¹Department of Paediatrics and Neonates, Maidstone and Tunbridge Wells Hospital NHS Trust, Pembury, Kent, UK

²Department of Radiology, Maidstone and Tunbridge Wells Hospital NHS Trust, Pembury, Kent, UK

Correspondence to
Palaniappan Sashikumar,
docsashi@rediffmail.com

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DESCRIPTION

Perinatal arterial ischaemic stroke (PAIS) is the cause for 10–15% of neonatal seizures and approximately 30% of childhood hemiplegia.¹ We report a case of bilateral arterial stroke which initially was thought to be hemimegalencephaly and unilateral arterial stroke.

A term baby was noticed to have paucity of movements of his right upper limb in the immediate post-natal period. A brain MRI on day 7 showed large porencephalic cyst involving the entire territory of the left middle cerebral artery (MCA). There was also a shift of the midline to the left due to a mass effect

from the right hemisphere (figure 1A, B). Provisional diagnosis of antenatal left-sided PAIS and right-sided hemimegalencephaly was made following opinion from tertiary paediatric neurologist. Parents denied further investigations at this stage.

Baby developed infantile spasms at 3 months of age. MRI at 7 months showed new porencephaly on the right side in addition to the previous left side porencephaly (figure 1C, D). This clarified that the initial presumed right hemimegalencephaly was an MCA and anterior cerebral artery territory infarction in evolution with a contralateral left infarct already well-established at birth.

Figure 1 (A) and (B) are axial and coronal T2-weighted (T2-W) MR images showing a large area of tissue loss corresponding to the territory of the left middle cerebral artery (MCA) and a large right hemisphere, with shift of the midline to the left. There is a loss of tissue detail but abnormality is seen in the territory of the MCA including the central grey matter and the anterior cerebral artery (ACA). (C) and (D) equivalent images (axial T2-W and coronal T1-weighted) taken at 7 months clearly show tissue loss in both hemispheres consistent with bilateral MCA and unilateral ACA stroke.

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Unfortunately no diffusion-weighted images (DWI) were obtained on the initial imaging as the baby did not settle long enough with feed and wrap scans. Almost certainly these would have made a clear diagnosis of infarction. This case highlights

Learning points

- ▶ Diffusion-weighted images should be part of MRI assessments of neonates with suspected infarctions.
- ▶ MRI under sedation or anaesthetic should be considered when initial MRI without sedation does not provide adequate information.
- ▶ Reconsider alternative diagnosis in unusual presentations.

the need for routine DWI in neonatal MR assessment with consideration of sedation or at least early repeat scan where diagnosis is uncertain in the context of clinical symptoms.²

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Competing interests None.

Patient consent Obtained.

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