CASE REPORT: FOETAL INTRACRANIAL HAEMORRHAGE

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BACKGROUND

Germinal matrix-intraventricular haemorrhage (GM-IVH) is an intracranial bleed carrying considerable mortality mostly affecting preterm neonates during delivery.[1] Antenatal haemorrhage is rare, and although may be associated with trauma, hypertensive disorders or foetal haematological disorders, no cause is often identified.[1] Whilst etiology and haemorrhage timing influence prognosis, the spontaneous silent nature of GM-IVH in utero makes early detection in low-risk pregnancies challenging.

CASE

A 33-year-old G2P0T1 woman with an uncomplicated pregnancy presented at k36^{+2} with reduced foetal movements for 48 hours. She had a low-risk first trimester screen and reassuring morphology. Ultrasound at k31^{+3} showed an estimated foetal weight and head circumference greater than the 90th percentile but was otherwise unremarkable apart from a known 3cm anterior fibroid. Cardiotocography was reassuring but showed two variable decelerations 30 minutes apart associated with palpable tightenings. The patient was advised to remain on the CTG for another hour, but self-discharged after 40 minutes of a reassuring trace.

Ultrasound the next day revealed a breech foetus with a hyperextended head, echogenic area on the right-side shifting the midline falx, and a large ventricle. MRI head identified a hyperextended cervical spine (occiput almost touching upper back), bilateral grade 3 GM-IVH appearing acute, secondary severe ventriculomegaly (18mm bilaterally), and increased T2 signal in the occipital white matter suggesting venous infarction.

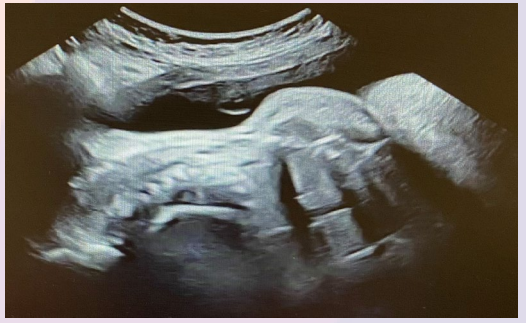

Figure 1. Ultrasound: foetal neck

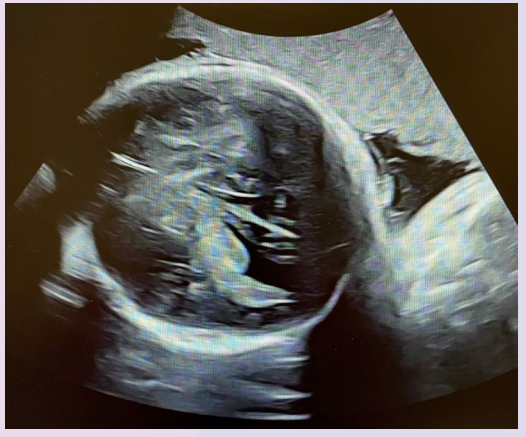

Figure 2. Ultrasound: foetal head

Investigations for fetomaternal haemorrhage, congenital infections and foetal and neonatal alloimmune thrombocytopenia were negative.

After joint consultation with maternal foetal medicine and paediatric neurology, the patient's care was transferred to another tertiary hospital to facilitate foeticide prior to a back-transfer for induction of labour at k37. After birth, placental swab and histopathology were also unremarkable. The autopsy is still pending.

DISCUSSION

Spontaneous foetal GM-IVH in utero is rare with an incidence of 0.46/1000.[2] Secondary causes include maternal factors (trauma, coagulopathy, drug abuse, infections), foetal factors (thrombocytopenia, vascular malformation) or placental abnormality.[2] However, idiopathic or vessel tearing in third trimester are the most common causes for spontaneous GM-IVH.[2] This emphasizes the importance of timely routine investigations like morphology ultrasound, serial ultrasounds if risk factors are present, and recurrent safety-netting about prompt presentations to hospital if reduced foetal movements or trauma.

REFERENCES

1. Owens, R. Intraventricular hemorrhage in the premature neonate. *Neonatal Netw.* 2005 [cited 2022 Jan 15]; 24(3): 55-71. Available from: https://pubmed.ncbi.nlm.nih.gov/15960011/ DOI: 10.1891/0730-0832.24.3.55
2. Jhirwal M, Sharma C, Kathuria P *et al.* Spontaneous Foetal Intracranial Haemorrhage: Scrutinising the Inscrutable. *Journal of Clinical and Diagnostic Research.* 2021 [cited 2022 Jan 15]; 15(2):3-4. Available from: https://www.researchgate.net/publication/350656871_Spontaneous_Foetal_Intracranial_Haemorrhage_Scrutinising_the_Inscrutable DOI: 10.7860/JCDR/2021/46978.14582