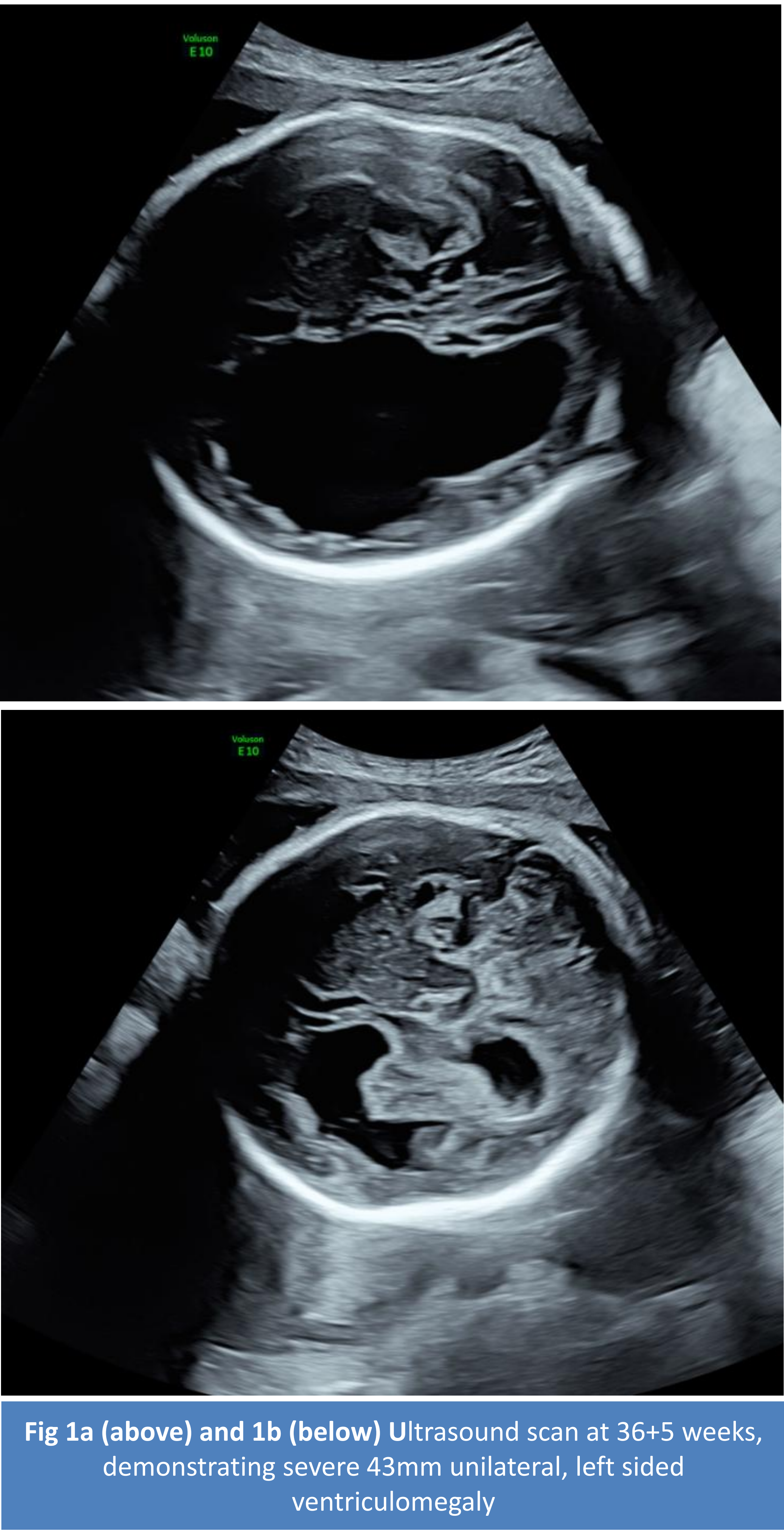


Idiopathic fetal stroke diagnosed antenatally and the need for uniform diagnostic definitions.

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Introduction
• Fetal stroke often presents as fetal intracranial haemorrhage (ICH). • Idiopathic fetal ICH is a rare but well reported phenomenon with the true in incidence of ICH in utero remaining undetermined. • Various predisposing risk factors for fetal ICH are recognised: • Maternal risk factors: • Genetic and autoimmune causes • Coagulopathies • Severe maternal trauma recreational drug use. • Fetal risk factors: • Congenital coagulopathy • Monochorionic twin pregnancies • Feto-maternal haemorrhages. • In the majority of cases the cause of fetal ICH remains unknown. • Fetuses diagnosed prenatally with ICH are exposed to higher risks of adverse neurodevelopmental outcomes, perinatal mortality, neonatal death and long-term neurological deficit • Antenatally, such events are diagnosed sonographically. • Here we present a case of an idiopathic fetal stroke diagnosed antenatally.

Case Report
• <i>A 35 year old woman, gravida 1 para 0 was referred for serial growth scans at 31 and 36 weeks of gestation as per hospital policy due to low BMI (17.5 g/m²).</i> • <i>Her medical history was unremarkable. Her antenatal fetal ultrasound scans at 20 and 31 weeks both showed normal appearances of the brain.</i> • <i>The scan at 36+5 weeks, however, showed a fetus with severe 43mm unilateral, left sided ventriculomegaly with biparietal diameter and head circumference above the 95th centile (Fig 1a and 1b).</i> • <i>Subsequent fetal MRI showed macrocephaly with bilateral ventriculomegaly and stigmata of previous germinal matrix haemorrhage and significant white matter injury.</i> • <i>After a multidisciplinary team discussion, feticide and termination of pregnancy were offered due to potential fetal sequelae.</i> • <i>The mother consented and had an uncomplicated feticide and vaginal breech delivery.</i> • <i>Subsequent maternal bacteriological and virological screens were negative.</i> • <i>Parental genetic screening and the fetal cytogenetic studies were unremarkable</i> • <i>Neonatal alloimmune thrombocytopenia test was negative.</i> • <i>Postmortem examination showed no congenital malformations or evidence of hydrops.</i>



Discussion
• It is recognised that the preterm brain possesses vulnerabilities that predispose the fetus to stroke. • This case demonstrates the importance of accurate diagnosis of perinatal stroke syndromes due to the implication for onward management. • A key challenge in the literature has been to identify the true incidence of fetal ICH due to different terms being used to define the same entity. • A universal diagnostic criteria looking at various sonographic markers to determine severity would allow uniform diagnosis allowing this phenomenon be better studied. • There is also a deficiency in the data for long term post-natal outcomes which would allow better counselling and management of patients.
Conclusion
• Early diagnosis of fetal stroke is essential for appropriate counselling and management of patients. • Clear, universal diagnostic terminology would allow better diagnosis. • Further data on long term postnatal outcomes would aid in appropriate parental counselling regarding management options.

