

**Title: Unilateral Reversal of Cerebroplacental Ratio in Fetal AV Malformation: A Unique Clinical Presentation.**



**INTRODUCTION :**

Cerebroplacental ratio (CPR) - valuable diagnostic tool for assessing fetal well-being<sup>1</sup>.

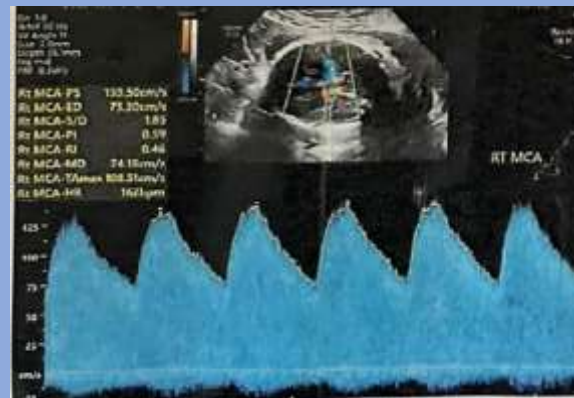
While CPR abnormalities are often linked to growth restriction or pre-eclampsia, their association with rare conditions such as arteriovenous malformations (AVMs) is less frequently discussed.

**CASE SUMMARY :**

**23/F Primi with Rh-negative had routine antenatal care. At 37 weeks, a growth scan and Doppler ultrasound showed elevated CPR, with the right middle cerebral artery (MCA) Doppler index greater than 3.4 MoM.**

Expert radiological consultation suggested a **fetal AVM**. After counselling, the patient opted to continue the pregnancy.

At 39 weeks, the patient **delivered a term female infant vaginally, with normal Apgar scores.**



**DISCUSSION :**

- An abnormal CPR - redistribution of cardiac output to the cerebral circulation<sup>1</sup>.
- In cerebral arteriovenous (AV) fistula, increased cerebral systolic flow occurs because the direct connection between high-pressure arteries and low-pressure veins bypasses the normal capillary bed, leading to rapid shunting of blood<sup>2</sup>
- Paladini<sup>2</sup> described cases where the fetes succumbed due to termination of pregnancy or congestive heart failure after birth.
- Our case further illustrates that not all the congenital cerebral AVFs had haemodynamic impact with poor prognosis. Our patient had an uneventful delivery and normal growth in the neonatal period. No hydrocephalus or congestive cardiac failure developed.

**CONCLUSION :**

Thus, it is prudent to check both side arteries for CPR estimation and to keep in mind of the rare cause for reversal of CPR thus eliminating unnecessary emergency caesarean sections.

**MANAGEMENT :**

Postnatally, cranial USG was normal, but MRI - **dilated veins in the right frontal lobe, draining into the superior sagittal sinus, suggesting an AV fistula or vein of Galen malformation.** Abdominal USG - normal. Paediatric neurosurgery – ADVISED corrective surgery planned after six months of age.

**REFERENCES**

1. Di Muzio B, Weerakkody Y, Knipe H, et al. Cerebroplacental ratio.
2. Paladini, et al. PRENATAL ULTRASOUND DIAGNOSIS OF CEREBRAL ARTERIOVENOUS FISTULA.
3. Lasjaunias P. A revised concept of the congenital nature of cerebral arteriovenous malformations. Interv Neuroradiol.