

# Vein of Galen Malformation in a Foetus with Hydrocephalus and Cardiac Failure

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## ABSTRACT

**Introduction:** Vein of Galen aneurysmal malformation (VGAM) is a rare and complex arteriovenous malformation of the brain, which is associated with poor prognosis. It is characterised by shunting of one or more arterial blood flow into an enlarged vein of Galen located under the cerebral hemispheres. In this case report, we aim to increase awareness on this rare but serious condition. **Case Report:** A 31-year-old healthy multipara was referred to our Foetal Medicine Unit for foetal hydrocephalus noted during a routine ultrasound scan at 28 weeks of pregnancy. Antenatally her pregnancy was uncomplicated, and she was booked at 7 weeks. Her pregnancy was dated by ultrasound scan at 12 weeks. Our scan revealed increased biparietal diameter (BPD) and head circumference (HC), at 88 mm (corresponded to 35 weeks) and 293 mm (corresponded to 32 weeks), respectively. There was severe bilateral ventriculomegaly with a well circumscribed round mass located centrally at the base of the brain posteriorly. Colour doppler showed markedly increased vascularity of the mass with feeding vessels. A diagnosis of Vein of Galen Aneurysmal Malformation was made. Cardiac scan showed increased cardio-thoracic ratio with mild tricuspid regurgitation, which indicates high output cardiac failure. There was reversed end diastolic flow (EDF) on the umbilical artery (UA) doppler, with a normal ductus venosus (DV) doppler. No other abnormalities were detected sonographically. After a multi-disciplinary discussion involving the Consultant Neurosurgeon, the couple was counselled regarding the poor prognosis for the foetus. The couple opted for conservative management. She went into labour at 30 weeks and delivered a 1.4 kg baby with increased head circumference, who died 2 hours after birth. **Discussion:** VGAM may cause hydrocephalus due to its location and mass effect, as well as bleeding and high output cardiac failure secondary to shunting of blood. Successful embolisation using interventional radiology have been reported internationally with promising results in selected cases. However, VGAM presenting during the neonatal period have been shown to have worse prognosis than those presenting later in childhood. **Conclusion:** In this case, we concluded that the prognosis for this foetus was poor due to severe hydrocephalus with high risk of long term adverse neuro-developmental outcome of the VGAM. In addition, there was evidence of foetal compromise as seen by the reversed EDF of the UA doppler and high output cardiac failure at extreme prematurity.

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# A Single Blinded, Open-labelled, Randomized Control Trial comparing Acetaminophen Suppository with Diclofenac Suppository as Analgesia for Perineal Injury following Childbirth

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## ABSTRACT

**Objectives:** To assess the efficacy of Acetaminophen rectal suppository compared to suppository Diclofenac in women with postpartum perineal pain secondary to perineal trauma. **Methods:** This study is carried out in 2 phases. In phase I, 250 patients were recruited and managed as standard hospital protocol where no analgesia will be provided during immediate post-perineal repair. In phase II, 700 pregnant women who fulfilled inclusion criteria were randomized into suppository acetaminophen 500 mg (Group A) or suppository diclofenac 50 mg (Group B). The suppository will be given immediately post-perineal repair. Data included social demographic, antenatal history, intrapartum details, perineal trauma details will be recorded. Pain scores (resting and dynamic) will be recorded before repair (baseline), immediate post-repair, 2nd-3rd hour post-repair, 5th-6th hour post-repair and upon discharge. Severity of pain was recorded on the basis of 11-point Visual Analogue Scale (0-10). **Results:** All 3 groups showed no statistically significant difference in descriptive data including social demographic, antenatal characteristics, intra-partum details, baby's birth-weight, types of perineal tears. When compare the mean pain score of treatment group with the control group, both acetaminophen and diclofenac group significantly reduced the mean pain score (resting and dynamic) during 2nd-3rd hour & 5th-6th hour post-perineal repair following childbirth. In phase II, Pain scores (PS) were similar in both treatment groups with no statistical difference. Baseline resting and dynamic PS for group A was 6.28  $\pm$  1.30, 7.84  $\pm$  1.09, and group B was 6.30  $\pm$  1.29, 7.78  $\pm$  1.10 respectively (p=0.84 for resting PS, p=0.47 for dynamic PS). For resting and dynamic PS at 2nd to 3rd hour post-repair was 1.4  $\pm$  0.66, 1.94  $\pm$  0.71 for group A and 1.32  $\pm$  0.71, 1.88  $\pm$  0.65 for group B (p=0.123 for resting PS, p=0.243 for dynamic PS). At 5th to 6th hour post-repair, the resting and dynamic PS was 0.73  $\pm$  0.50, 1.30  $\pm$  0.58 respectively for group A and 0.71  $\pm$  0.53, 1.36  $\pm$  0.56 respectively for group B (p=0.769 for resting PS, p=0.162 for dynamic PS). **Conclusion:** Suppository acetaminophen showed comparable analgesia effectiveness in postpartum perineal pain-control following perineal repair when compared to suppository diclofenac. Since oral and intravenous analgesia always have an important issue associated with potential passage into breast milk, rectal route of analgesic administration may be a better option. Rectal route also results in faster pain relief and more effective upon local action. This study showed that suppository acetaminophen is a good option to consider in managing pain-control for post-partum post perineal repair.