

# Case Series of Pregnancy with Arnold Chiari Malformation, Challenges and Our Experience

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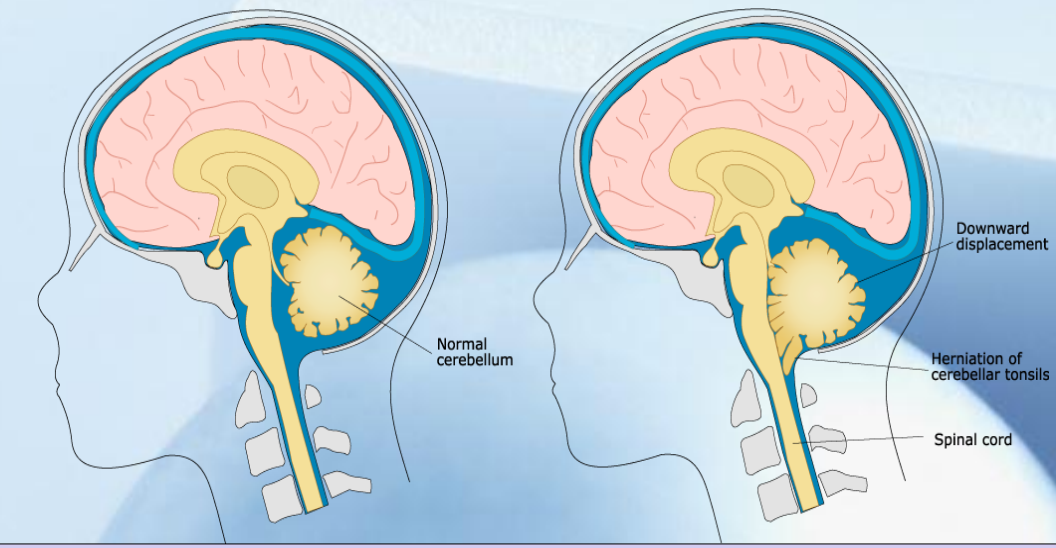


## Objective:

Pregnancy in women with Arnold-Chiari malformations (ACM) present unique challenges to obstetricians and anaesthetists in management and delivery. Pregnancy itself, uterine contractions and maternal effort during vaginal delivery could increase intracranial pressure, aggravate maternal symptoms and worsen the condition.

## Case 1:

29-year-old lady primigravida with Arnold Chiari malformation (type 1) and morbid obesity, referred to high risk antenatal clinic at 18wks gestation. She had multiple neurosurgeries with VA shunt in place. During pregnancy she was managed with multidisciplinary input from neurologists, neurosurgeons, Consultant Obstetrician & anaesthetist. She had serial growth scans and elective caesarean section performed at 38 weeks under general anaesthesia. Specific precautions such as alfentanil induction, maintaining normocapnia and keeping her head in a neutral position was undertaken to avoid damage to the shunt. She had uneventful recovery with obstetric HDU monitoring



## Case 2:

28-year-old, with 16 weeks' gestation was recently diagnosed with type 1 Arnold Chiari malformation, confirmed on MRI as she presented with right side headache, confusion and amnesia. Till date she is currently 33 weeks in her pregnancy with no obstetric concerns. She is closely monitored with multidisciplinary team input.

The main obstetric considerations on ACM's are the effect of pregnancy on the progression of the disease & management of labour and delivery and review of the literature suggests that most patients' symptoms tend to worsen. The contractile force of the uterus with changes in the intra-abdominal & intrathoracic pressure on cerebral spinal fluid (CSF) can cause an increase in ICP and unsuspected herniation. The choice of anaesthesia for labor analgesia or operative delivery continues to be an area of debate. Epidural anesthesia has been used in many cases without complications, although there is the theoretical risk of dural puncture causing tonsillar coning. GA had no complications. The main concerns are of hypertension and raised ICP during induction, as well as head/neck extension during intubation causing further damage to the existing malformation.

**Conclusion:** ACM in pregnancy is rare, and patient care should be individualized, with multidisciplinary involvement and planning mode of delivery is of paramount importance, due to risks of increased intracranial pressure and neurological morbidity. Our cases highlight the importance of multidisciplinary collaboration in managing complex cases