REF: CTMObs 148

Polyhydramnios

Initiated By	Cwm Taf Morgannwg University Health Board Obstetrics and Gynaecology Directorate
Approval Group	Antenatal forum
Distribution	Midwifery, Medical and Neonatal staff within Cwm Taf Morgannwg University Health Board (via email)
Archiving	Directorate secretary will be responsible for archiving all versions
Document Location	Health Board intranet Hard copy in CTM fileshare
Freedom of Information	Open

CHANGE HISTORY

Version	Date	Author Job Title	Reasoning
1	August 2024	D Ianan / A Miskin / C Daniel	New CTM UHB guidance
	December 2024	A Miskin/ D Lanon/C Daniel	Updated version sent

AUTHORSHIP, RESPONSIBILITY AND REVIEW

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Aims and Objectives

This guideline sets out to inform clinicians on the evidence-based practice in diagnosis and management of polyhydramnios in singleton pregnancies. The management of polyhydramnios in multiple pregnancy is outside of the scope of this guideline.

Background, Definition and Classification

Polyhydramnios is defined as excessive amniotic fluid and complicates 1-2% of pregnancies (Beloosesky R, 2021). Most cases of mild polyhydramnios are idiopathic/unexplained, but most cases with moderate or severe polyhydramnios are due to maternal or fetal disorders.

Definition:

- If DVP >8cm. undertake AFI and report centile (Centile will depend on GA on the AFI chart)
- If AFI centile >95th centile, report Polyhydramnios (Moore and Cayle charts)

It can be further sub-classified into mild, moderate or severe.

Classification	AFI	Incidence
Mild	25-29.9	66%
Moderate	30-34.9	22%
Severe	>35	12%

(Dashe JS, 2002)

Aetiology

The etiology of polyhydramnios can be either fetal, maternal, placental or, in 50-60% of cases, unexplained. **Unexplained polyhydramnios** is a diagnosis of exclusion and other causes must be first ruled out.

Fetal

- Conditions preventing fetal swallowing such as oesophageal atresia, CNS abnormalities, arthrogryposis, muscular dystrophies, congenital diaphragmatic hernia obstructing the oesophagus
- Duodenal atresia Fetal anaemia – alloimmune disorders, viral infections
- Fetal hydrops
- Increased lung secretions – cystic adenomatoid malformation of lung
- Genetic or chromosomal abnormalities

Maternal

- Diabetes (resulting in Fetal hyperglycemia and hyperinsulinemia and polyuria)
- Substance abuse
- Lithium therapy (resulting in fetal nephrogenic diabetes insipidus)

Placental

- Chorioangioma or metastatic neuroblastoma

Initial Management

Midwife:

- Transfer care to obstetric-led care.
- Inform woman of increased risk of cord rupture and advise regarding knee-chest, face down position in the event of SROM, whilst awaiting transfer to obstetric-led unit.

Obstetrician

- Abdominal palpation to assess severity and engagement of presenting part
- Explain implications of polyhydramnios for mother and baby
    - Increased risk of pregnancy loss
        - 4% without co-existent structural abnormality
        - 60% with co-existent structural abnormality (Karkanis & Patni, 2014)
    - Increased risk of cord prolapse, PROM, abruption, preterm labour, PPH
    - Increased risk of caesarean birth due to unstable lie
    - Even with normal structural ultrasound the risk of major congenital anomaly is 1% with mild, 2% with moderate and 11% with severe polyhydramnios. Will need neonatal assessment immediately after birth, normally with insertion of temporary NG tube prior to first feed (Karkanis & Patni, 2014)
    - Will need to birth on obstetric-led labour ward due to the above risks
- Put neonatal alert in place
- Arrange any outstanding investigations
- Refer to fetal medicine unit in the case of:
    - Suspected fetal anomaly
    - EFW <10th centile
    - Reduced movements
    - Rapid onset polyhydramnios

Maternal Investigations

- GTT
    - Does not need repeating if already done earlier in this pregnancy (Beloosesky R, 2021)
- Maternal blood group antibody status (for atypical red cell antibodies)
- Infection screen (TORCH)
    - Only if other markers of fetal infection on USS
    - Check exposure to parvovirus if fetal hydrops
- Ultrasound
    - At the time of diagnosis, Check FAS scan.
      Detailed scan of stomach, bowel, kidneys, spine & heart (VACTERAL anomalies)
    - Growth, liquor volume and umbilical artery dopplers every 2 weeks to be arranged
- Fetal Karyotyping if advised by FMU

Ongoing Management

Counselling:

- In the absence of maternal, fetal, and placental etiology, polyhydramnios is thought to be unexplained or idiopathic. This accounts for 50–60% of all cases of polyhydramnios.
- Increased risk of preterm birth and delivery, unstable fetal lie, rupture of membranes with cord prolapse, placental abruption, intervention in labour including emergency Caesarean birth and PPH.

Monitoring:

- Fetal Growth, liquor volume and umbilical artery dopplers to be measured every 2 weeks.
- If severe, check liquor volume weekly (Karkanis & Patni, 2014).
- Therapeutic amniocentesis or prostaglandin synthetase inhibitors should only be considered for relief of maternal symptoms or to reduce the risk of preterm birth, and only under the guidance of fetal medicine and a tertiary centre. (Karkanis & Patni, 2014)
- If no response to amnioreduction, may need induction for maternal indication.

Labour and Birth

- Reassure and explain to the woman that there is no benefit for IOL in unexplained polyhydramnios. The benefits do not seem to outweigh the risks associated with the induction. (Royal College of Obstetricians and Gynaecologists, 2014). (Karkhanis & Patni, 2014)
- Timing of birth should be individualized, and decision made at a consultant level, considering parity, previous MOD, estimated fetal weight, severity of polyhydramnios, aetiology of polyhydramnios, and maternal preference.
- Standard obstetric care and birth in most cases.
- Severe polyhydramnios: consider controlled induction + ARM at 38 weeks' gestation to avoid risk of umbilical cord prolapse.
- Caesarean birth is not indicated for polyhydramnios alone and should only be undertaken where other indications exist. (Society for Maternal-Fetal Medicine, 2018)
- On presentation to maternity ward or labour ward, confirm cephalic presentation is maintained before IOL/ ARM. (Beloosesky R, 2021)
- Continuous fetal monitoring is recommended (Beloosesky R, 2021)
- Controlled ARM to avoid risk of umbilical cord prolapse. In the case of amniotomy, this should be performed in theatre with an obstetrician with the appropriate skill set to perform category 1 caesarean birth present, should this be required. (Karkanis & Patni, 2014). The use of a second operator to stabilize the fetal lie is recommended. (Beloosesky R, 2021)
- Once labour is established, close monitoring for signs of labour dystocia in cases with associated macrosomia is recommended
- Where labour reaches the second stage, anticipate shoulder dystocia
- Where labour reaches the second stage, anticipate post-partum hemorrhage. (Karkanis & Patni, 2014).

- Complete Obs Cymru paperwork stage 0 on admission to Labour Ward. Prophylactic use of 40IU Syntocinon infusion is advised.
- Inform neonatal team – Thorough neonatal examination & Consider need for NG tube and chest x-ray to check for esophageal atresia.

Postnatal

- 'Inform a senior neonatologist regarding the birth of baby and obtain their advice on management prior to first feed, irrespective of the severity or cause of polyhydramnios.
- The decision for considering nasogastric tube prior to first feed to check the patency of upper GIT, will be individualized and as advised by a senior neonatologist.
- Debrief regarding any birth complications. Refer for postnatal debrief clinic if traumatic events identified.

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