Polyhydramnios in singleton pregnancies- Full Clinical Guideline

Reference no.: UHDB/Obs/07:23/P5

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1. Introduction

Polyhydramnios occurs in around 1% of pregnancies and is associated with a variety of adverse pregnancy outcomes. It can range from mild to severe and has wide ranging aetiologies: maternal, fetal and placental. It is independently associated with increased perinatal morbidity or mortality, the risk being greater at earlier gestations or with SGA fetuses. Identifying an underlying cause is more likely the greater the severity of the polyhydramnios.

2. Purpose and Outcomes

The purpose of this guidance is to standardise the approach to investigation and management of polyhydramnios

3. Key Responsibilities and Duties

- It is the midwife's responsibility to refer to Consultant team for further investigation if polyhydramnios suspected clinically
- The diagnosis is based on ultrasound assessment by sonographers or fetal medicine Consultants.
- Responsibility for further investigation or referral for fetal medicine opinion lies with the Consultant team
- Responsibility for ongoing management and discussion with parents about potential implications lies with Consultant Team

4. Abbreviations

PPROM	-	Preterm premature rupture of membranes
PTL	-	Preterm labour
CEFM	-	Continuous electronic fetal monitoring
TOF	-	Tracheoesophageal fistula
AFI	-	Amniotic fluid index

MPD	-	Mean pool depth
SGA	-	Small for gestational age
PPH	-	Post partum haemorhage
GTT	-	Glucose tolerance test
CLC	-	Consultant led care
MWLC	-	Midwife led care
CMV	-	Cytomegalovirus
GIT	-	Gastrointestinal tract

5. Diagnosis and definition

Definition of polyhydramnios

Diagnosis should be by 4 quadrant AFI if suspected by single MPD of > 8cm
In most cases it is chronic and insidious in onset and develops in third trimester

- Normal AFI 8-24.9 cm
- Mild polyhydramnios 25-29.9 cm (up to 80% cases)
- Moderate polyhydramnios 30 -35cm (15 %)
- Severe polyhydramnios > 35 cm (5-10 %)
- Acute polyhydramnios - sudden onset within days with rapid accumulation (rare)

On identification of polyhydramnios a scan should be undertaken to exclude hydrops/ascites/ effusions, assess for any obvious cardiac pathology, assess fetal kidneys and stomach and check fetal growth (if > 14 days from last biometry) and check fetal wellbeing

6. Causes

- Idiopathic or unexplained (50-60 %)
- Macrosomia
- Maternal diabetes
- Fetal anaemia or non immune hydrops
- Fetal structural malformations : TOF; oesophageal atresia; duodenal and intestinal atresia
- Chromosome or genetic anomalies: trisomies; fetal akinesia; Beckwith-Wiedermann: renal disorders; VACTERL anomalies
- Congenital infection: parvovirus; CMV; rubella; toxoplasmosis; syphilis
- Fetal tumours; teratomas, nephromas, neuroblastoma and haemangiomas
- Placental or cord tumours
- Other eg maternal hypercalcaemia, drug use (eg lithium)

The causes are disorders that affect either fetal swallowing, impair gut absorption, increase secretions or cause high urine output states.

7. Investigations

Transfer to CLC if booked under MWLC

7.1 Mild polyhydramnios (cause commonly idiopathic)

- GTT unless recently undertaken. If > 36 weeks consider 1 week HBGM.
- Check maternal blood group status (booking and 28 weeks) for atypical red cell antibodies
- Infection screen ONLY if indicated by history or other ultrasound markers to suggest this given the low prevalence of infections.
- BW greater than 4kg associated with polyhydramnios in over 30% cases. If unusual early onset macrosomia without diabetes refer for fetal medicine opinion
- Refer to fetal medicine if ultrasound suggestive of other anomalies or growth < 10th centile
- Refer to fetal medicine if abnormal fetal movements detected by ultrasound

7.1. Moderate polyhydramnios

- GTT and check maternal blood group status
- Bloods for CMV and parvovirus
- Rubella only if no history of 2 x MMR vaccinations
- Refer to fetal medicine by ANC only, if fetal hydrops, suspected fetal anomaly, fetal growth

restriction or any other concerns
- Refer to fetal medicine if rapid onset (may reflect muscular dystrophy)

7.2. Severe or rapid onset polyhydramnios

- Investigations as above and refer to fetal medicine
- Urgent referral if acute polyhydramnios suspected
- Consider TVS for cervical length to assess risk of preterm labour/consider steroids

8. Antenatal management

8.1. Assessment and discussion with parents

- Enquire re symptoms: regular tightenings; abdominal pain; SOB at each ANC visit. Consider inpatient admission if concerning symptoms- discuss with Consultant
- Examine abdomen to assess clinical severity, tension of uterus, lie, engagement and presenting part
- Enquire re fetal movements
- Discuss risks associated with polyhydramnios: preterm labour/PPROM; placental abruption; cord prolapse; unstable lie/malpresentation; postpartum haemorrhage; increased risk C/S
- Advise re risk cord prolapse if PPROM and ensure knows importance of immediate attendance for assessment. Advise re early attendance if onset of regular contractions.
- Discuss inpatient admission if unstable lie/malpresentation after 37 weeks.
- Discuss risks labour dystocia/shoulder dystocia if macrosomia
- Advise birth in Consultant Unit with continuous EFM and recommend active third stage management.
- Discuss limitations of ultrasound scan in diagnosis of TOF, oesophageal atresia, cleft palate and cardiac septal defects and need for neonatal detailed examination to exclude undetected congenital malformations, assessment to exclude upper GIT obstruction before first feed. Detailed discussion will take place in fetal medicine if indication for referral.
- Complete neonatal alert irrespective of degree of polyhydramnios. If referral to fetal medicine neonatal alert will be completed by fetal medicine team.

8.2. Ongoing surveillance

- There is no clear evidence to inform surveillance in pregnancies complicated by polyhydramnios, however it would seem sensible to keep mild or moderate polyhydramnios under surveillance for fetal growth, to exclude increasing macrosomia and to identify increasing polyhydramnios, every 2-4 weeks. Frequency of monitoring of severe polyhydramnios will be decided by fetal medicine consultant.
- Surveillance for pregnancies complicated by severe polyhydramnios or polyhydramnios with other concerns will be directed by whether a cause has been identified, degree of polyhydramnios, need for treatment and maternal symptoms.
- There is no evidence that outcome is improved by planned induction of labour.

8.3. Intrapartum management and neonatal care

- Advise to attend immediately if signs of labour/SROM and assess to exclude unstable lie/cord prolapse.
- Inform obstetric, anaesthetic and neonatal team when in labour
- Iv access, FBC, G+S during labour as increased risk labour dystocia, abruption/PPH
- CEFM during labour recommended
- Caution with ARM- should only be done under controlled circumstances, acute decompression can cause placental abruption
- Active third stage and consider oxytocin infusion if significant polyhydramnios due increased risk PPH
- Neonatal team to advise on newborn assessment.

9. Monitoring Compliance and Effectiveness

Audit of outcomes of pregnancies diagnosed with polyhydramnios

10. References

NHS Wales, University Health Board: Management of Polyhydramnios; F Thaheem et al. January 2019

Fetal Medicine Foundation (2022) Polyhydramnios accessed at https://fetalmedicine.org/education/fetal-abnormality/amniotic-fluid/polyhydramnios

Polyhydramnios: etiology, diagnosis and management: Beloosesky R and Ross MG. In Up to Date, Waltham MA accessed at https://www.uptodate.com/contents/polyhydramnios-etiology-diagnosis-and-management

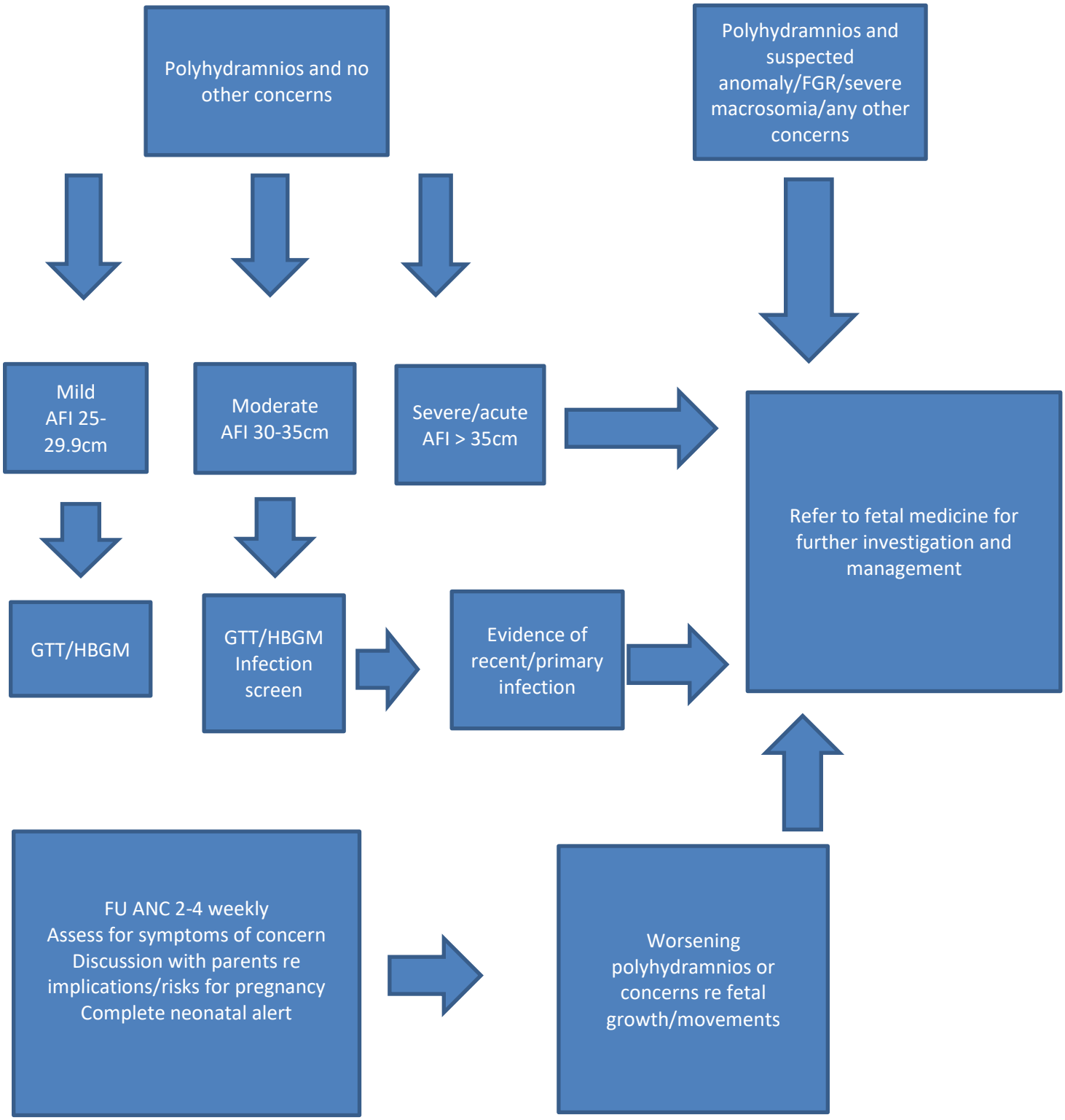
Canterbury District Health Board, Christchurch Womens Hospital: Polyhydramnios; WCH/GLM0054; October 2018

Polyhydramnios in Singleton Pregnancies: postnatal outcomes and management: TOG; Volume 16; Issue 3; 2014

Evaluation and Management of Polyhydramnios: Giancarlo et al; November 16: 2018; Contemporary Obstetrics and Gynaecology

Appendix A

FLOW CHART FOR MANAGEMENT OF POLYHYDRAMNIOS



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