Aneurin Bevan University Health Board

Polyhydramnios - Pathway for Clinical Practice in Singleton Pregnancy

N.B. Staff should be discouraged from printing this document. This is to avoid the risk of out of date printed versions of the document. The Intranet should be referred to for the current version of the document.

Status: Issue 4 Issue date: March 5th, 2025
Approved by: Maternity Clinical effectiveness Forum Review by date: March 5th 2028

Contents:

Introduction/Overview 3
Scope of policy 3
Essential Implementation Criteria 3
Aims 3
Responsibilities 3
Training 3
Background: Polyhydramnios 4
Assessment 4
Causes of polyhydramnios 4-5
Clinical Manifestation 5
Diagnosis 5
Clinical significance 7
Management 8
Appendix 9
Reference 10

Introduction/Overview

This document is a clinical guideline designed to support safe and effective practice for those identified with polyhydramnios during pregnancy.

This document applies to all people who are pregnant and may use the term woman but recognises that not all people having babies within Aneurin Bevan University Health Board, identify as women.

Scope of policy

This guideline applies to all clinicians working within maternity services.

Essential Implementation Criteria

Auditable standards are stated where appropriate.

Aims

To provide support for clinical decision making.

Responsibilities

The obstetric and Maternity Management team

Training

Staff are expected to access appropriate training where provided. Training needs will be identified through appraisal and clinical supervision

Background: Polyhydramnios

Physiologically, the volume of amniotic fluid volume (AFV) increases with gestation to a maximum at 36-37 weeks. Polyhydramnios is defined as an abnormally large volume of amniotic fluid with the incidence 1:100 [3] .

In about 80% of cases the polyhydramnios is mild, in 15% moderate and in 5% severe. Most cases of mild polyhydramnios are idiopathic, but most cases with moderate or severe polyhydramnios are due to maternal or fetal disorders.[3]

Polyhydramnios is known to be associated with adverse pregnancy outcomes with greater deviations from the norm being more strongly associated with abnormality.

Assessment

Amniotic fluid volume is assessed by using either the Deep pocket of amniotic fluid (DVP) or Amniotic fluid index (AFI). To measure the DVP, the ultrasound transducer is held parallel to the long axis of the patient's body, and the largest vertical pocket of amniotic fluid is measured. To calculate the AFI, the uterus is divided into four equally sized quadrants and the depth of the single deepest fluid pocket in each quadrant is measured; the sum of these measurements is the AFI. To be included in either the DVP or AFI, each measured amniotic fluid pocket must be at least 1 cm wide. The measured pocket(s) should not contain fetal parts or loops of umbilical cord.[7]

Causes of polyhydramnios:

- Idiopathic (around 50%)
- Congenital abnormalities and genetic disorders 8-45%
- Maternal diabetes (5-26%)
- Multiple pregnancies (8-10%)
- Fetal anaemia (1-11%)
- Congenital infections (very rare)
- Hydrops fetalis
- Maternal substance misuse
- Maternal metabolic abnormalities

Two major causes of polyhydramnios [4] :

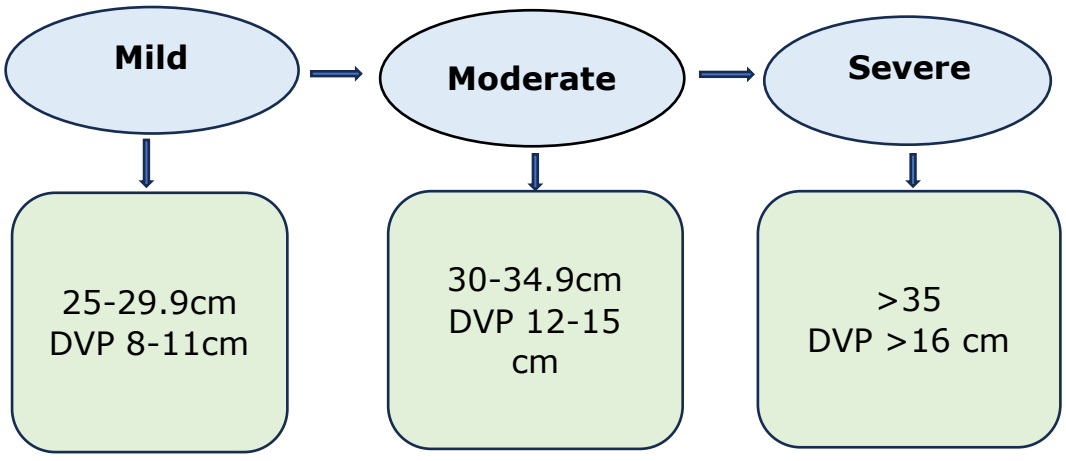
- **Reduced fetal swallowing:** due to brain abnormalities, facial tumors, gastrointestinal obstruction, compressive pulmonary disorders, and fetal akinesia deformation sequence
- **Increased fetal urination:** maternal diabetes mellitus and maternal uremia, fetal anemia, fetal and placental tumors, or twin-to-twin transfusion syndrome.

Clinical Manifestation

Polyhydramnios should be suspected when polyhydramnios should be suspected when SFH > 90th centile, EFW > 97th centile. Fetal parts may be difficult to palpate. It may also be detected as an incidental finding on ultrasound examination.

Diagnosis

- Based upon sonographic visualization of increased amniotic fluid volume:
    - Single deepest pocket ≥ 8 cm OR Amniotic fluid index > 25 cm – further classified as;



- Perform further tests to identify likely causes for the polyhydramnios

- **Mother** –
  - OGTT – if < 34 weeks and not done previously Apply fasting glucose and do a HbA1c to exclude diabetes as per All Wales GDM guidance
  - Blood group and Rhesus typing –

- **Refer to obstetric consultant** if antibody positive but does not meet criteria for fetal medicine referral.
- **Refer to fetal medicine if:** ○ anti-D levels are > 4 iu/ml ○ anti-c levels are > 7.5 iu/ml ○ any level of anti-K antibodies ○ For any other antibodies, refer if history of previous significant HDFN or intrauterine transfusion (IUT), or a titre of ≥ 32, or rising titres.

  (For detailed guideline regarding red cell antibodies please refer to RCOG greentop guideline no.65 May 2014 Management of women with red cell antibodies)

  - Exclude maternal drug exposure (Lithium)
  - **Not routine -** Infection screen (CMV, Rubella, Toxoplasma, Parvovirus)

  (* Congenital infection (rubella, CMV, toxoplasmosis, syphilis) is an unlikely cause of isolated polyhydramnios in the absence of maternal signs and symptoms or fetal findings)

  ○ **Fetus** –
  - Ultrasound survey to exclude structural abnormalities (1% risk of anomaly with mild polyhydramnios; upto 31% of pregnancies with severe polyhydramnios have major congenital anomaly such CVS, cardiac, or gastrointestinal anomaly [6]).

Refer to Fetal medicine if there is
○ structural anomaly
○ growth restriction with polyhydramnios
○ concerns with fetal movements
○ severe or worsening polyhydramnios

- In 50-60% of cases no cause is found but surveillance is essential due to raised risk of perinatal morbidity and mortality

Clinical significance

- Polyhydramnios has been associated with an increased incidence of many adverse outcomes:
    - Maternal respiratory compromise
    - Prelabour rupture of membranes
    - Preterm labour and delivery
    - Fetal malposition
    - Macrosomia (potentially leading to shoulder dystocia)
    - Umbilical cord prolapse.
    - Placental abruption upon rupture of membranes
    - Longer 2nd stage of labour
    - Postpartum uterine atony (PPH)

Idiopathic polyhydramnios is associated with macrosomia in approximately 15–30% of cases, and affected patients are significantly more likely to undergo caesarean delivery, with increased risk of neonatal intensive care admission due to transient neonatal tachypnoea of the newborn.[6]

- Counsel women regarding increased risk of above and intervention in labour including emergency caesarean section and postpartum haemorrhage

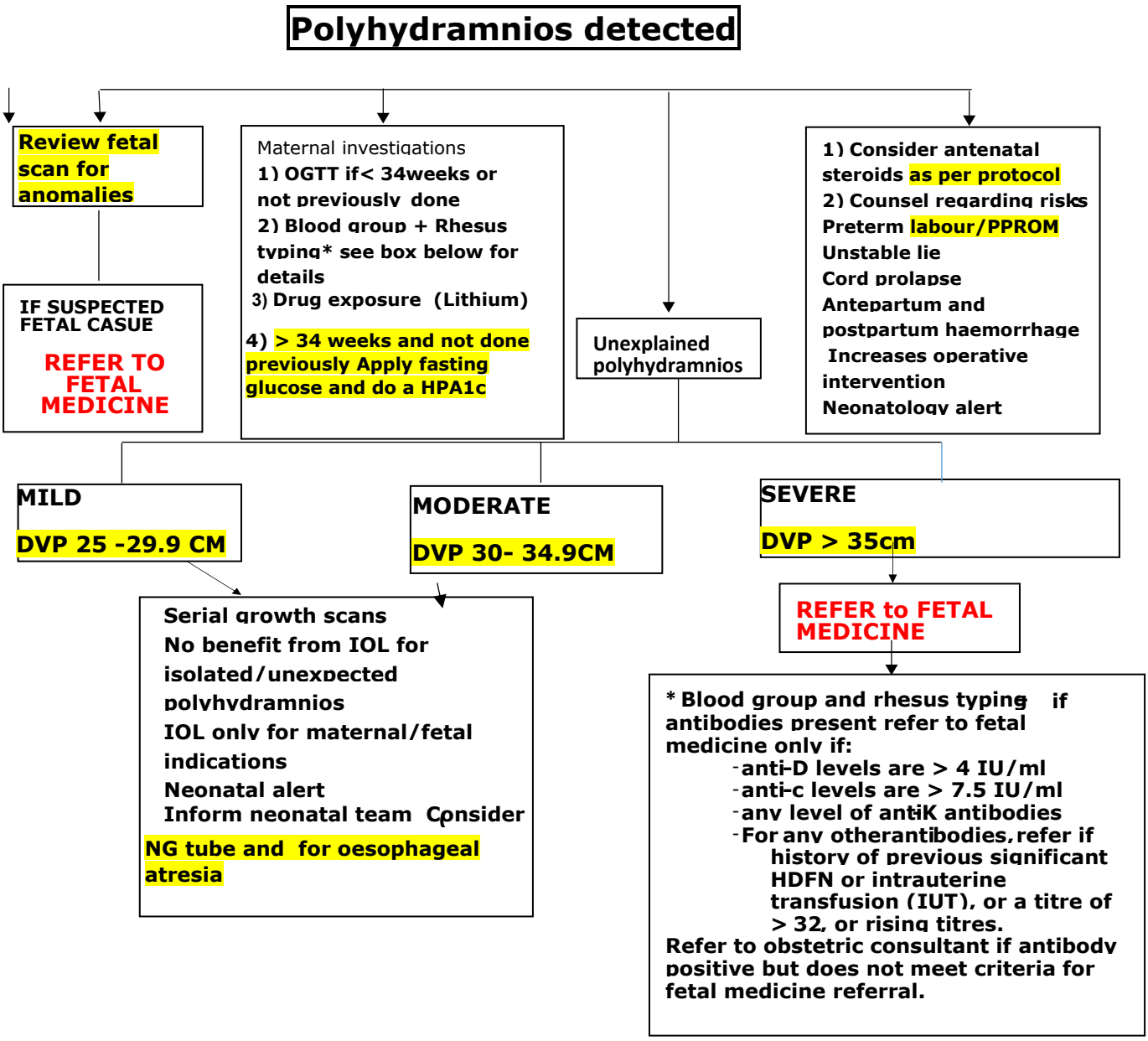
Management

Management depends on the cause, in most cases – standard care with regular fetal surveillance. In cases of severe polyhydramnios, induction of labour to be considered at 38 weeks to avoid cord prolapse. [3]

- Consider antenatal steroids if evidence of preterm labour
- No benefit for IOL in unexplained polyhydramnios
- Neonatal assessment with naso-gastric tube (to check patency of upper GI tract prior to feeding)

Appendix 1

Management of Polyhydramnios (Singleton pregnancy)



Reference:

1. Clinical relevance of sonographically estimated amniotic fluid volume AT Sandlin Journal of Ultrasound in Medicine volume 32, issue 5, p 851-863 The Fetal medicine foundation.
2. Evaluation and management of polyhydramnios. J S Dashe ACOG, 2018
3. Idiopathic Polyhydramnios and Neonatal Morbidity at Term. B Polnaszek et.al., Am J Perinat., 2023.
4. Performance of the routine mid-trimester fetal ultrasound scan, June 2022. ISUOG guideline.
5. Polyhydramnios: Etiology, diagnosis, and management. Uptodate 2024. Beloosesky R, Ross MG.
6. Polyhydramnios in singleton pregnancies: perinatal outcomes and management. Karkhanis P, Patni S. The Obstetrician and Gynaecologist 2014; 16: 207-13.
7. Polyhydramnios, patient information leaflet. ISUOG 2019
8. Practice bulletin no. 175 Obstet Gynecol. 2016; 128:e241-e256. American College of Obstetricians and Gynecologists Ultrasound in Pregnancy
9. The management of women with red cell antibodies. RCOG Greentop guideline No.65, May 2014.