Updated March 2024

**Isolated Amniotic Fluid Disorders**

Definition

* Isolated amniotic fluid disorders are defined as abnormal amniotic fluid volumes in a pregnancy with no other associated medical co-morbidities (i.e. diabetes, hypertension, etc), or fetal conditions (i.e. fetal growth restriction, renal anomalies, genetic abnormalities).

Diagnosis

* Amniotic fluid volume assessed with DVP (deepest vertical pocket) or AFI (amniotic fluid index)
  + AFI – calculated by dividing the uterus into four quadrants (using the linea nigra for the right and left divisions and the umbilicus for the upper and lower divisions) and measuring the DVP in each quadrant (free of fetal parts and umbilical cord confirmed using color Doppler) and adding the four measurements. The DVP should be measured by holding the ultrasound transducer perpendicular to the floor while scanning in the sag ittal plane.
  + DVP – largest vertical pocket of fluid (free of fetal parts and umbilical cord confirmed using color Doppler)
  + To be included in the either the DVP or AFI, each measured pocket must be at least 1cm wide.
  + For **multifetal** pregnancy, amniotic fluid volumes are measured by DVP.
  + For **<20 weeks gestation,** amniotic fluid volumes are measured by DVP.
* Oligohydramnios defined as DVP < 2cm or AFI < 5cm.
  + No consensus on preferred method to limit adverse outcomes, though DVP has higher specificity in preterm period.
* Polyhydramnios defined as DVP ≥8 cm or AFI ≥24 cm.
  + Mild: DVP 8-11.9 cm or AFI 24.0-29.9 cm
  + Moderate: DVP 12-15.9 cm or AFI 30.0-34.9 cm
  + Severe: DVP ≥16 cm or AFI ≥35 cm
* Borderline low amniotic fluid defined as AFI 5- 7.9 cm.

Management of Isolated Oligohydramnios (DVP < 2cm or AFI < 5cm, singleton pregnancy)

* History: Obtain with special attention for concern for rupture of membranes or placental insufficiency such as preeclampsia.
* Physical Exam: As indicated.
* Consider amniocentesis to rule out PPROM if clinical uncertainty.
* Perform BPP with NST at the time of diagnosis (if viable gestational age). If not previously completed, perform a Level 2 anatomy ultrasound to assess for fetal anomalies including careful evaluation of fetal kidneys, bladder and updated fetal weight.
* Management based on gestational age:
  + **< 22 weeks:** MFM consultation
  + **≥ 22 weeks - < 36 weeks** 
    - Inpatient management with maternal hydration with 2 liters PO (preferred) or IV as clinically appropriate
    - Consider MFM consultation pending gestational age or if no improvement in AFI or DVP after hydration.
    - If decision is made for outpatient management (i.e. DVP returns to normal) after inpatient evaluation, outpatient monitoring requires includes a minimum of twice weekly testing alternating BPP and NST.
  + **36 weeks:** 
    - Consider delivery if DVP < 2cm or no 2x2 pocket persistently despite 24-48 hours of IV or PO hydration.
    - Consider late preterm steroids if no contraindications to administration are present.
  + **≥ 37 weeks** 
    - Recommend delivery if DVP <2cm.
    - Consider delivery if AFI <5 cm without fluid hydration.
    - If hydration is attempted, recommend delivery if oligohydramnios (AFI <5 cm) for more than 24-48 hours despite IV or PO fluid hydration.
  + **≥ 39 weeks** 
    - Deliver

\*Delivery is not indicated for **resolved** isolated oligohydramnios prior to 39 weeks.\*

Management of Isolated Borderline Amniotic Fluid Volume (5-7.9 cm)

* History: Obtain with special attention for concern for rupture of membranes or preeclampsia.
* Physical Exam: As indicated.
* Consider amniocentesis to rule out PPROM if clinical uncertainty.
* Perform BPP with NST at the time of diagnosis (if viable gestational age). If not previously completed perform a Level 2 anatomy ultrasound to assess for fetal anomalies including careful evaluation of fetal kidneys, bladder and updated fetal weight.
* Maternal hydration with 2 liters PO or IV as clinically appropriate, can be performed outpatient.
* Repeat AFI within 1 week

o Normal AFI- no further testing indicated

o Oligohydramnios- follow as outlined above

o Borderline- repeat AFI within 1 week 🡪 If borderline amniotic fluid volume is stable for > 2 weeks, no further AFI assessment needed

Management of Isolated Polyhydramnios

Polyhydramnios, or hydramnios, is an abnormal increase in the volume of amniotic fluid. Identification of polyhydramnios should prompt a search for underlying etiology. Although most cases of mild polyhydramnios are idiopathic, the two most common pathologic causes are maternal diabetes mellitus and fetal anomalies, some of which are associated with genetic syndromes.

* History: Obtain full history with special attention to:
  + Maternal: Diabetes, Rh immunization, infectious diseases, and symptoms from polyhydramnios.
  + Family: Genetic syndromes such as myotonic dystrophy or inborn errors of metabolism. Refer for genetic counseling/testing if positive history.
  + Fetal: Prior imaging results if available.
* If prior screening for gestational diabetes is negative, consider repeating screening with GCT if one month has passed since prior negative screening.
* If not previously performed, perform Level 2 anatomy ultrasound to assess for fetal anomalies (i.e. esophageal atresia, tracheo-esophageal fistula, bowel atresia, thoracic mass, CDH, etc)
* Consider maternal serum screening for syphilis +/- infectious workup for patients or if fetal ultrasound findings such as nonimmune hydrops fetalis, hepatomegaly, splenomegaly, or placentomegaly are noted.
* Consider aneuploidy screening, if not previously performed.
* Consider amniocentesis if:
  + Structural anomaly, fetal growth restriction
  + Elevated risk of aneuploidy on prior genetic screen or for maternal desire for diagnostic testing.

***SMFM Consult Series #46“Currently, there are not data to support diagnostic amniocentesis of apparently isolated polyhydramnios, although amniocentesis with chromosomal microarray analysis should be made available to all pregnant women.”***

* If amniocentesis performed send:
  + Microarray
  + Myotonic dystrophy panel if positive family history or fetal hypotonia concerns on ultrasound.
  + Inborn errors of metabolism panel (Gaucher disease, gangliosidoses, mucopolysaccharidoses, etc.) if positive family history or high-risk ethnicity (Ashkenazi Jews, Amish, consanguinity)
* Antenatal Fetal Surveillance: Antenatal testing may be clinically indicated for a myriad of maternal and fetal complications, see Antenatal Fetal Surveillance for details. The following recommendations pertain solely to isolated polyhydramnios without associated maternal diabetes, fetal anomaly, etc.
  + Mild polyhydramnios (AFI: 24.0-29.9 cm) – no indication for surveillance
  + Moderate to severe polyhydramnios (AFI >30 cm) – twice weekly testing alternating BPP and NST within initiation between 32 0/7- 34 0/7.
* Treatment
  + Consider amnioreduction when severe polyhydramnios leads to maternal respiratory compromise, severe discomfort, or both.
  + Indomethacin should not be used for sole indication of treatment of polyhydramnios.
* Delivery Timing
  + Mild polyhydramnios– induction of labor no sooner than ≥39 weeks unless other indications present.
  + Moderate polyhydramnios- consider delivery ≥ 37-39 weeks
  + Severe polyhydramnios - consider delivery ≥37 0/7 weeks at a tertiary care center due to significant possibility that fetal anomalies may be present.
* Mode of delivery
  + Based on usual obstetrical indications, though increased risk of fetal malpresentation with increasing polyhydramnios. Always confirm presentation prior to induction, especially in setting of increasing AFI.
* Special scenario: **History of isolated polyhydramnios, subsequently resolved**
  + If the amniotic fluid volume has been normal on two or more consecutive occasions, and the patient has recently had a negative diabetes screen, it is reasonable to discontinue antenatal testing if other indications for testing are not present.

Twins with amniotic fluid disturbances – refer to MFM.

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