8/19/17njm

Alaska Native Medical Center Practice Guideline

OLIGOHYDRAMNIOS

Background

Among other metrics, oligohydramnios is defined as a single deepest vertical pocket of less than 2 cm by 1 cm.*

Measurement of the amniotic fluid is clinically easy, but is confounded by significant inter- and intra-operator discrepancies, exaggerated by such factors as the presence or absence of loops of cord, seen with or without color Doppler, and by the amount of pressure applied by the ultrasound transducer. The measurement of a single deepest vertical pocket of fluid less than 2 cm has been found to be as sensitive, and more specific, than the amniotic fluid index (AFI) for predicting adverse perinatal outcomes. The 2 cm vertical pocket should be at least 1 cm wide as well.

Amniotic fluid (AF) is produced primarily through fetal urine production, and is resorbed chiefly by fetal swallowing. Fetal lung fluid exchange, as well as transmembranous exchange, are also significant means of AF turnover. Oligohydramnios may arise from pre-renal, renal, and post-renal causes. The latter two reflect fetal urologic abnormalities, whereas the former may reflect uteroplacental insufficiency or maternal dehydration. Occult rupture of membranes (PROM) may also be a cause of a low AF level.

Uteroplacental insufficiency may result in fetal growth restriction (FGR), which may first become apparent by discovering oligohydramnios. The stressed fetus responds by shunting blood to the brain, and restricting flow to the splanchnic beds, including the kidneys, resulting in decreased urine production. Uteroplacental insufficiency may also be seen with hypertensive disorders of pregnancy, as well as with postterm pregnancy. The single deepest vertical pocket was developed as a means of antenatal fetal surveillance for patients suspected of having these problems.

Etiology by trimester:
<u>First trimester</u>
Aneuploidy
Fetal anomaly

<u>Second trimester</u>
Fetal anomaly
Preterm premature rupture of membranes
Placental abruption
Fetal growth restriction
Aneuploidy
Elevated maternal serum alpha fetoprotein
Status Post amniocentesis

<u>Third trimester</u>
Preterm premature rupture of membranes

Uteroplacental insufficiency
Preeclampsia
Other maternal vascular diseases
Placental abruption
Fetal growth restriction
Fetal anomaly
Postterm
Suboptimal maternal hydration

In recent years, a low single deepest vertical pocket, because of its association with adverse pregnancy outcomes, has increasingly prompted labor induction. Induction of labor for the indication of isolated oligohydramnios has been associated with an increase in the cesarean delivery rate without any significant improvement in perinatal outcomes. RCT data has not shown an improvement in outcome with induction of labor vs expectant management. Using the "2x1 cm vertical pocket" rule to define true oligo is able to decrease the number of unnecessary inductions and cesarean delivery.

Definition
Oligohydramnios
Single vertical pocket < 2 cm (pocket should be at least 1 cm wide)*

Management of Oligohydramnios

1. **Initial Assessment**

1. Assess for PROM with history and sterile speculum examination.
2. Review dating to be sure this is not a postterm pregnancy.
3. Assess for FGR by both clinical estimated fetal size and ultrasound. An estimated fetal weight that is less than the 10th percentile for gestational age, an elevated head to abdominal circumference ratio (HC/AC), or poor interval growth, should suggest the diagnosis. Doppler studies may be indicated as well (see Doppler Guidelines).
4. Assess fetal anatomy for anomalies, if not previously done.
5. Determine if pregnancy-associated hypertensive disease, or other maternal condition associated with uteroplacental insufficiency, is present.
6. Perform a fetal non-stress test (NST) and a full biophysical profile (BPP) to assure fetal well-being if appropriate for EGA
7. Evaluate cervical Bishop score to assess readiness for labor.
8. At term, if any of the above conditions is found, consider for induction of labor.

B. Management: Unexplained Oligohydramnios Prior to 36 0/7

1. Work up possible etiologies. (See Etiology by Trimester, above)
2. Consider detailed anatomic fetal ultrasound (DAFUS)
3. If work up negative, consider MFM consult

C. Management: Unexplained Oligohydramnios after 36 0/7

1. If none of the above conditions is encountered, and fetal surveillance is otherwise reassuring, consider a diagnosis of isolated, term, unexplained oligohydramnios.
2. Hydrate as an outpatient with oral water or other hypotonic solution (at least 2 liters) overnight. Repeat the deepest vertical pocket, and obtain a repeat NST, within 24 hours.
3. Failure to resolve the oligohydramnios should prompt consideration of induction of labor, especially in the presence of a Bishop score over 5.
4. Expectant management is appropriate if the deepest vertical pocket ≥2 cm.
5. Document patient counseling as to the risks and benefits of induction versus expectant management. Take into account cervical ripeness and patient preferences
6. Suggested timing for delivery for unexplained oligohydramnios is 36 0/7-37 6/7.

* Oligohydramnios is also defined as an Amniotic Fluid Index less than 5, regardless of EGA, by others.
The terms 'borderline' or 'low' AFI are not well defined, so are not encouraged.

References

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