Hydramnios
AFI ≥ 24 cm at >20 weeks

1. Comprehensive Fetal Ultrasound
2. If AFI ≥ 35 cm Fetal Echocardiogram
3. Consider MFM Consultation

Abnormal Ultrasound

1. Manage according to fetal condition
2. Genetic counseling

Normal Ultrasound

1. Screen for:
   A) Diabetes
   B) Alloimmunization
   C) Congenital Infection
      -RPR
      -CMV (consider after MFM consultation)
2. Counsel:
   *risk of genetic anomaly is ≤ 1%
   *risk of prenatally undiagnosed neonatal structural anomaly is D, E:
      1% for mild hydramnios
      2% for moderate
      10% for severe

Negative Screen = Idiopathic hydramnios
1. Serial AFI (q2-4 weeks)
2. Monthly growth ultrasound

Positive Screen:
1. Manage according to condition

Resolved
AFI < 24 cm
Discontinue Fetal Testing

Mild-moderate
AFI 24-34.9 cm
Weekly NST/AFI starting at 32 wks
Consider delivery by EDD

Severe
AFI ≥ 35 cm
Twice weekly NST/weekly AFI starting at 32 wks
Recommend:
*Delivery @ 39 wks
*MFM consultation for Rx and delivery plan

Legend:
Reference letters A-H correspond to notes on page 2.
Notes: Supporting evidence for clinical guidelines and counseling:

A. No single method for diagnosing hydramnios or establishing prognosis has been shown to be definitively superior, but AFI has an improved (decreased) inter-observer variability with an equal or better overall accuracy compared to maximum vertical pocket (MVP).\(^1\)\(^-\)\(^4\)

B. Multiple definitions of an elevated AFI have been suggested (absolute cutoffs versus percentiles) without comparison for superiority, but we select a static cutoff of 24 cm for our definition since it corresponds to the 97.5\(^{th}\) percentile for 40 weeks, and adverse pregnancies outcomes are known to aggregate at the 2.5\(^{th}\) percentile upper and lower extremes.\(^2\) This definition optimizes sensitivity while maintaining simplicity, which is important for implementation.

C. Fetal cardiac defects are highest in moderate-severe hydramnios, with rates 13.5\%-27\%.\(^5\)\(^-\)\(^6\) Prenatal detection rate of cardiac anomalies is only 40% using fetal anatomy ultrasound without echocardiogram.\(^6\)

D. While risks for congenital structural anomalies and perinatal death increase with severity of hydramnios, risk for genetic abnormalities appears stable across hydramnios severity level and is only 1\% in the absence of structural abnormalities and fetal growth restriction. Residual risk for neonatal structural abnormalities after a normal comprehensive fetal ultrasound is 1\%-10\% depending on the severity of hydramnios.\(^5\)\(^-\)\(^8\)

Adverse outcomes by level of hydramnios, including all types & etiologies of hydramnios

<table>
<thead>
<tr>
<th></th>
<th>AFI 25-29.9cm (N=291)</th>
<th>AFI 30-34.9cm (N=97)</th>
<th>AFI ≥35cm (N=67)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aneuploidy risk prior to completed workup*</td>
<td>3.8%</td>
<td>11.6%</td>
<td>13.0%</td>
<td>0.12</td>
</tr>
<tr>
<td>Preterm birth &lt;37 weeks</td>
<td>15.8%</td>
<td>19.6%</td>
<td>46.3%</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>5-min Apgar&lt;7</td>
<td>3.8%</td>
<td>8.3%</td>
<td>23.1%</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>Fetal demise</td>
<td>2.4%</td>
<td>3.1%</td>
<td>13.4%</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>Perinatal mortality</td>
<td>5.5%</td>
<td>9.3%</td>
<td>26.9%</td>
<td>&lt;0.005</td>
</tr>
<tr>
<td>Cardiac anomaly</td>
<td>6.9%</td>
<td>17.5%</td>
<td>26.9%</td>
<td>Not reported</td>
</tr>
<tr>
<td>Congenital anomalies; RR (95% CI)</td>
<td>3.2 (1.5-6.8)</td>
<td>5.7 (2.4-13.3)</td>
<td>13 (5.8-29.5)</td>
<td>----</td>
</tr>
</tbody>
</table>

* Represents the aneuploidy risk prior to a comprehensive fetal anatomy ultrasound and etiology assessment.

E. Risk for congenital malformations is highest (>50\%) among patients with
the combination of fetal growth restriction and hydramnios. 8, 9

F. Among hydramnios diagnoses, 70% are mild and 50-60% are idiopathic. 6, 10

G. Idiopathic hydramnios is associated with an increase in adverse pregnancy outcomes, including perinatal death. 11-15

H. Decisions for treatment of symptomatic severe hydramnios should be individualized and with the assistance of MFM consultation. There is no clear evidence that any medical intervention improves the outcome of most cases of hydramnios.2

a. Amnioreduction: removal of a large amount of amniotic fluid (usually 800-1500 ml) via amniocentesis. May increase success rate of delaying delivery until 37 weeks, but associated with 1.5% complication rate, including rupture of membranes, placental abruption and stimulation of labor. 1

b. Indomethacin: data are limited to only case reports. Risks of therapy include oligohydramnios and constriction of the fetal ductus arteriosus, especially after 30-32 weeks. Ductus arteriosus constriction has been associated with increased risk of neonatal patent ductus arteriosus. Therefore AFI should be monitored daily and fetal ductal arch velocities should be followed serially, with discontinuation of therapy when AFI his high-normal or with evidence of fetal ductal affects. 1

References:


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*These algorithms are designed to assist the primary care provider in the clinical management of a variety of problems that occur during pregnancy. They should not be interpreted as a standard of care, but instead represent guidelines for management. Variation in practices should take into account such factors as characteristics of the individual patient, health resources, and regional experience with diagnostic and therapeutic modalities.*

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