Ventriculomegaly

- Criteria for appropriate measurement of lateral ventricle
  - Head is in axial plane
  - Image is magnified appropriately, so that fetal head fills majority of image
  - Focal zone is at appropriate level
  - Cerebral ventricles are symmetric in appearance
  - Midline falx is imaged
  - Atrium and occipital horn of lateral ventricle are clearly imaged
  - Atrium of lateral ventricle is measured at level of parietooccipital groove
  - Calipers are placed on medial and lateral walls of atrium perpendicular to long axis of ventricle
Ventriculomegaly (VM)
At least one lateral ventricle ≥ 10mm

Maternal-Fetal Medicine Referral

Detailed survey with documentation of:
- Lateral 3rd and 4th ventricles, CSP, corpus callosum or pericallosal artery,
  thalami, cerebellum, cerebellar vermis, and cisterna magna
- Fetal echocardiogram

VM with or without adequate intracranial views

Genetic counseling
Amniocentesis with karyotype microarray,
PCR toxoplasmosis and CMV

VM 10-12mm with adequate intracranial anatomy on ultrasound

Isolated VM 10-14mm
- Serial ultrasounds
- CMIH referral for postnatal plan
- Expectant management

VM ventricles >12mm and/or inadequate intracranial views

Isolated VM >15mm
- Serial ultrasounds
- CMIH referral
- Deliver at tertiary care center
- Consider CD with HC >40cm

VM with additional findings

Manage accordingly
1. CMV PCR with amniocentesis at <21 weeks has poor sensitivity (45-80%) for CMV. After 21 weeks or 6-7 weeks from primary maternal infection, PCR on amniotic fluid has sensitivity of 97-100%.

2. Toxoplasmosis AF PCR should be performed at ≥18 weeks gestation and at least 4 weeks after acute primary maternal infection to avoid false negatives.

3. If amniocentesis declined, cfDNA may be offered. However, the patient should be counseled regarding limitations of noninvasive screening. 10-15% of fetuses have abnormal findings on microarray. In addition, maternal serologies for CMV and toxoplasmosis are not routinely offered. Many cases of congenital infection (up to 75% of CMV) are due to nonprimary maternal infection. In addition, toxoplasmosis IgG avidity may be low for months after primary infection. Thus, maternal serologies are difficult to interpret and treatment is ultimately based on AF PCR results.

4. MRI most useful at >22 weeks gestation as development milestones (cortical maturation) are more evident.

5. Additional findings may include: microcephaly, intracranial calcification, absent CSP, agenesis CC, intracranial hemorrhage, etc.

References:


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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