UNC SCHOOL OF MEDICINE

Consider referral to MFMU Network CMV Study

CMV definitions:
1) Maternal seroconversion, primary infection – with or without maternal s/s – appearance of IgG positive CMV antibodies with prior negative IgG, or low avidity IgG (< 60% consistent with infection 4-6 month, < 30% infection < 3 months)
2) Congenital infection – amniotic fluid or neonatal urine positive for CMV DNA by PCR or CMV culture
3) CMV disease - symptomatic neonatal CMV infection

Evaluation of fetus at risk for congenital CMV infection

Suspected fetal risk of congenital CMV based on:
1) Positive maternal serology c/w primary maternal infection
2) Referral for abnormal US suggestive of CMV
(Ventriculomegally, IUGR, intracranial calcifications, hydrops, echogenic bowel, ascites)[3,9]

Targeted MFM Ultrasound; amniocentesis for CMV PCR after 21 weeks gestational age and ≥ 6 weeks from maternal exposure, or at the time of finding of fetal abnormality* [1,7,8,12]

Positive CMV PCR

Diagnosis of congenital infection

PPV ~ 96-100%, Spec 96-100% [8,12]

- If available, enroll in congenital CMV treatment study; may offer CMV HIG [5], expectant management, TOP if gestational age appropriate.
- Antenatal testing (serial US for fetal growth, timing and frequency of antenatal testing at discretion of MFM provider).
- **Notify peds at delivery for neoantal urine CMV PCR for neonatal screening/diagnosis**

CMV HIG protocol

Negative CMV PCR

Unlikely congenital CMV, evaluate other etiologies for US findings, low risk fetal infection if negative amnio after positive maternal serum screen

NPV of congenital infection– 94.2% [8] if done after 21 weeks EGA and ≥ 6 weeks after primary maternal infection [8]

Declined amniocentesis

If not done, offer maternal serology; CMV IgG, avidity

- **CMV IgG positive**
  - **Avidity < 60 %**
    Can not exclude congenital CMV; offer amniocentesis for diagnosis of fetal infection; therapy options unclear; consider enrollment in CMV treatment study if available
    Notify peds at delivery for neonatal CMV screening with urine CMV PCR
  - **Avidity > 60%**
    Congenital CMV disease rare; follow up based on clinical findings that prompted evaluation
- **CMV IgG negative**
  Unlikely congenital CMV, evaluate other etiologies for US findings

***** Diagnostic testing (amniocentesis) recommended for a) primary maternal infection in first ½ of pregnancy or b) US findings consistent with infection (above).
Timing of amniocentesis for best sens/specificity[8] is 20-22 weeks EGA and > 6 weeks after primary maternal infection, or at time of US finding as
1) 6-9 weeks required from time of maternal infection to time for virus to be eliminated from the fetal urine and detected in AF,
2) maternal infection in first 12-16 weeks carries highest risk of severe disease,
3) higher false negative rate due to reduced fetal diuresis earlier than 20 week EGA [8]

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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