Method and interpretation of maternal CMV serologic screening

1. Screening for maternal CMV seroconversion in pregnancy or
2. Potential Maternal CMV exposure/acute infection

*universal screening not recommended in US or Canada

CMV facts: Congenital CMV - 0.2-2.2% live births - most common congenital infection
- Maternal seroconversion rate in pregnancy 1-4%
- Intrauterine transmission
  primary infection – 30-40%
  secondary infection – 1%
- Congenital infection (positive urine < 2 weeks of life)
  10-15% symptomatic at birth
  85-90% no s/s at birth
  5-15% develop sequelae
- Risk factors for maternal CMV seroconversion in pregnancy
  - Child < 4 years of age in daycare
  - Maternal at-risk occupation
    Health care worker
    Day care/child care provider
    Primary school teacher

Possible scenarios for maternal CMV serologic screening:
1) at time of suspected maternal exposure
2) at the provider's discretion, at initial prenatal visit in high-risk for CMV women after counseling
3) abnormal US findings (see CMV fetal diagnosis protocol)

Maternal serum CMV IgG, IgM

IgG negative
IgM negative
Maternal susceptible/no prior maternal CMV infection
*recommend hand washing, other prevention measures

IgG negative
IgM positive
Possible early primary maternal CMV infection vs false positive CMV IgM

IgG positive
IgM positive
IgG Avidity
IgG Avidity > 60 consistent with remote prior exposure (> 4-6 months prior), rare fetal risk

Avidity < 60%, concern for primary maternal infection, avidity < 30% c/w infection < 3 months

IgG positive
IgM negative
Presume maternal immunity, very low fetal risk
No further screening; may confirm with avidity (> 60% c/w remote exposure) if done after 18 weeks EGA

At UNC order ‘OBGYN CMV’ which will obtain IgG and reflex positive IgG to Avidity

IgG negative
after 6 weeks repeated serology, likely low fetal risk

Obtain CMV avidity

Manage as primary maternal CMV infection
MFM Referral

SMFM: We do not recommend routine screening of all pregnant women for evidence of primary CMV infection at this time (grade 1B)
Consensus statement from SOCG:
A) Routine screening of pregnant women for CMV by serology testing is currently not recommended. (III-B)
B) Serologic testing for CMV may be considered for women who develop influenza-like illness during pregnancy or following detection of sonographic findings suggestive of CMV infection. (III-B)
C) Seronegative health care and child care workers may be offered serologic monitoring during pregnancy. Monitoring may also be considered for seronegative pregnant women who have a youngchild in day care. (III-B)
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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