Approved by Quality & Patient Safety Committee
15 May 2014

PARVOVIRUS B19 SCREENING AND MANAGEMENT IN PREGNANCY

This LOP is developed to guide clinical practice at The Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP

1. Aim

Appropriate monitoring of pregnant woman with parvovirus infection

2. Patient

Pregnant woman with parvovirus

3. Staff

- Medical, midwifery and nursing staff
- Sonographers

4. Equipment

Nil

5. Clinical Practice

Screening / Exposure to Parvovirus infection

- Do **not** offer routine screening for parvovirus B19 in pregnancy
- Recommend Parvovirus IgG/IgM antibody screening to pregnant woman who has significant exposure to or are displaying symptoms of parvovirus (rash or arthropathy) or have a fetus with hydrops fetalis, without a known cause. (significant exposure means close personal contact not just in the room)
- Educate pregnant women who in close contact with child / other people with acute parvovirus regarding avoiding contact with respiratory secretions :
    - do not put child's dummy / spoon in your mouth
    - do not allow the child crying into your face (cuddly an infant in your lap facing away from you)
    - always was your hands after wiping the infant's nose or touching their respiratory secretions
- Give woman the patient information leaflet: http://www.health.nsw.gov.au/Infectious/factsheets/Factsheets/parvovirus_b19.PDF

Diagnosis

- Reassure woman who is Parvovirus IgM negative and IgG positive that she has immunity to the virus and her pregnancy is unlikely to be affected
- Advise woman with Parvovirus IgG negative and IgM positive antibodies that this result may indicate acute infection or may be a false positive. Recommend repeat serology in 1-2 weeks
- Repeat serology for woman who is Parvovirus IgM and IgG negative in one to two weeks if exposure occurred within the last one to three weeks. If exposure is ongoing, advise woman that serology should be repeated every 2 weeks
- Advise woman who are both IgG and IgM positive that she may have acute parvovirus infection. Inform the woman's obstetrician that she may have acute parvovirus infection

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Management

- Discuss with the woman who may have acute parvovirus infection that most parvovirus in pregnancy is benign. There is no proven risk of parvovirus-induced congenital anomalies, but there is a small risk of fetal loss/ hydrops/ anaemia.
- Refer women who may have acute parvovirus infection to a Maternal Fetal Medicine specialist for counselling, further surveillance and appropriate intervention if required.
- Arrange ultrasounds for woman who has acute parvovirus infection in the first 20 weeks of pregnancy. Ultrasound surveillance should usually be 1-2 weekly, for up to 8-12 weeks after the time of the infection.
- Consider in utero transfusion If MCA PSV is >1.5MOM, or there is evidence of hydrops remote from term. Delivery may be an option closer to term
- Arrange neonatal review after birth or antenatally as appropriate
- Send fresh placenta to pathology if hydrops fetalis or fetal anaemia is detected

6. Documentation

- Integrated clinical notes
- Yellow card
- ObstetriX

7. Educational notes

- Children and adults may experience one to four days of systemic symptoms prior to the appearance of a rash. Arthropathy affecting the joints of the hands, wrists, knees, and ankles can occur, most commonly in adults. Joint symptoms also can precede the development of a rash in adults. Arthropathy typically lasts one to two weeks. The clinical course in immunocompetent children and adults, including pregnant women, generally is self-limited. Although adults can develop a rash, it is not as common as in children, and the "slapped cheek" appearance is rare
- Parvovirus B19 viraemia begins approximately six days after exposure and lasts for one week in immunocompetent individuals. Transmission is by the respiratory route. An infected person is contagious before the onset of symptoms (10 days before the rash develops) and may remain infectious until the rash develops (2)
- Over 60% of women of childbearing age are immune to parvovirus
- In a study of 1018 pregnant women with positive parvovirus serology, 6.3% of pregnancies with acute parvovirus led to fetal death and this was limited to parvovirus infections diagnosed in the first half of pregnancy. In this study there were 6 stillbirths of which 4 were considered related to parvovirus (3)
- In addition to causing fetal loss, parvovirus is cytotoxic to fetal red blood cell precursors and may cause anaemia and hydrops (3)
- The observed rate for fetal hydrops in women with known parvovirus infection prior to 20 weeks is 4.2% (4). The observed risk of parvovirus B19 induced hydrops fetalis is 3.9% after maternal infection throughout pregnancy, with a maximum of 7.1% when infection occurred between 13 and 20 weeks of gestational age (7)
- The median interval between diagnosis of maternal infection and hydrops was three weeks; 50 percent of cases occurred two to five weeks after maternal infection and 93 percent occurred within eight weeks of maternal diagnosis (3)

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- Women at increased risk of parvovirus infection include mothers of pre-school and school aged children, childcare workers and school teachers (5)
- Children treated with intrauterine transfusion for parvovirus B19 infection may be at increased risk of neurodevelopmental impairment. This may be a reflection of the severe anaemia itself rather than the intrauterine transfusion (6)
- It is not practicable to prevent exposure at home. Exclusion from work of pregnant school teachers or child care workers is not recommended during a parvovirus epidemic (nor is exclusion of infected children) (8) Handwashing is advised.

8. RELATED POLICIES / PROCEDURES / CLINICAL GUIDELINES / LOCAL OPERATING PROCEDURES

- Referral to Maternal Fetal Medicine

9. References

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