2.16 - Parvovirus B-19 Exposures

Purpose

- To describe methods of preventing transmission of Parvovirus B-19 in UTMB healthcare facilities

Audience

- All Maternal-Fetal Medicine healthcare workers and students in UTMB hospitals and clinics.

Policy

- Parvovirus B19 (a.k.a., Fifth Disease) infection usually causes no symptoms or mild illness, such as flu-like symptoms, rashes and joint pains. In individuals with blood disorders or a weakened immune system, infection can cause a low blood count. Infection during pregnancy can sometimes lead to additional complications.

Clinical Manifestations of Parvovirus B-19 Infection

- Initial symptoms
  - Fever
  - Coryza
  - Headache
- Symptoms that usually occur at 2-5 days
  - Mild nausea and diarrhea
  - “Slapped cheek” rash (Circumoral pallor)
  - Erythematous maculopapular exanthema on trunk and limbs (faint erythema to florid exanthema)

Viral Shedding

- Viral Shedding occurs about 10 days before the appearance of clinical manifestations.
- A person is most contagious during the first few days of symptoms. They are unlikely to be contagious after they get later symptoms such as rash and joint pains.
- Persons who have a drop in blood count (anemia) may remain contagious until the blood count improves.
- People with parvovirus B19 infection who have **weakened immune systems** may be contagious for a longer time.

Isolation

- Droplet + Standard precautions will be followed. (refer to HCE policy 01.19 – Isolation Precautions)
- Precautions must be maintained for the duration of hospitalization when chronic disease occurs in an immunocompromised patient. For patients with transient aplastic crisis or red-cell crisis, maintain precautions for 7

days. Duration of precautions for immunosuppressed patients with persistently positive PCR not defined, but transmission has occurred.

Index Case

- All employees who have contact with patients in Maternal-Fetal Medicine should be knowledgeable about the signs and symptoms of Parvovirus B-19 infection.
    - An employee who develops signs and symptoms of Parvovirus B-19 infection should report to their supervisor.
    - A blood sample should be taken from the employee in the appropriate tube and taken to the Clinical Microbiology Laboratory to be tested for IgG and IgM antibody to Parvovirus B-19.
    - An epidemiological investigation will be started pending results of the serologic test for the index case. If the serologic test is negative, the investigation will be discontinued.

Epidemiologic Investigation of an Exposure Incident

- The case definition for Parvovirus B-19 infection is as follows:
    - "Slapped cheek" rash on face
    - Lenticular rash on trunk and extremities
    - Serologic test positive for IgM antibodies
- Definition of exposure
    - Persons within 6 feet of a case of Parvovirus B-19 infection in the 10 days prior to onset of symptoms in the case.
- The index case will be interviewed to identify his or her contacts with patients and employees during the 10 days prior to onset of symptoms.
    - Patient contacts will be determined by when and where the index case worked over the previous 10 days
    - Patient contacts will be separated by women who are pregnant and those who are not pregnant
    - Employee contacts will also be listed by those who are pregnant and those who are not pregnant
    - Contact lists will contain the following information for each contact
        - Pregnant patients
            - Name
            - UH#
            - Date(s) of exposure
            - Location(s) of exposure

        - Serologic status for Parvovirus B-19
        - Contact information
    - Non-pregnant patients
        - Name
        - UH#
        - Date(s) of exposure
        - Location(s) of exposure
        - Serologic status for Parvovirus B-19
        - Contact information
    - Pregnant employees
        - Name
        - UH#
        - Employee Health number
        - Date(s) of exposure
        - Location(s) of exposure
        - Serologic status for Parvovirus B-19
        - Contact information
    - Non-pregnant employees
        - Name
        - UH#
        - Employee Health number
        - Date(s) of exposure
        - Location(s) of exposure
        - Serologic status for Parvovirus B-19
        - Contact information
- The serologic status for Parvovirus B-19 virus will be ascertained for all healthcare workers and other employees exposed to the index case by review of their records in Employee Health.
    - All Healthcare workers who are negative for Parvovirus B-19 antibody will be furloughed or reassigned to non-patient care duties for 21 days after their last exposure to the index case.

- All pregnant healthcare workers without Parvovirus B-19 antibody will also be advised to contact their obstetrical care provider for follow-up of their exposure.

Serologic Tests for Employees

- Employees
  - All employees who have or may have contact with pregnant patients will be tested for IgG antibody to Parvovirus B-19.
  - Employees will be tested immediately, and new employees will be tested on arrival.
    - House staff will be tested on arrival prior to starting patient care in July of each year.
    - New Faculty will be tested prior to starting work.
    - All new nurses will be tested prior to starting work.
    - Other employees who may have contact with pregnant patients such as Environmental Services personnel, phlebotomists, sonographers, receptionists or secretaries will also be tested at the time of hire.
- Determination of Parvovirus B-19 serologic status will be a condition for employment for those employees who have contact with pregnant patients.

Serologic Tests for Pregnant Patients

- Pregnant patients' medical records will be checked immediately for serologic tests for Parvovirus B-19.
  - If the patient has not been tested for antibodies to Parvovirus B-19, arrangements will be made immediately for the patient's blood to be drawn for IgG and IgM antibodies.
  - All pregnant patients without antibody to Parvovirus B-19 will be followed for the remainder of their pregnancy by their obstetrical care provider,
  - Pregnant patients who have IgG antibody but no IgM antibody will be notified that they are not at risk for infection.

Non-pregnant Patients

- Non-pregnant patients will be notified by phone
  - Using the script written by the Office of University Advancement (OUA), non-pregnant patients will be called and advised to avoid contact with pregnant patients and persons with decreased immunity or persons who have blood disorders such as sickle cell disease.

References

- About Parvovirus B19 | Parvovirus B19 and Fifth Disease | CDC