Varicella and Pregnancy

Disclaimer

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Background – About Varicella and Pregnancy

Varicella infection can cause severe morbidity in the pregnant woman, mainly in the third trimester. Pneumonia occurs in 10% and mechanical ventilation may be required. Maternal mortality is reported up to 6%.

- The greatest risk for the fetus is in the first and second trimester. Fetal congenital varicella syndrome can cause skin scarring, eye defects (cataracts, microphthalmia, chorioretinitis), hypoplasia of limbs, microcephaly, developmental delay, and dysfunction of bowel and bladder.
- Varicella in the newborn – transplacental transmission increases as gestation advances and up to 50% of fetuses are infected when maternal infection occurs 1 to 4 weeks before delivery. The infection can be lethal in up to 30% of infants when maternal infection occurs in the period from 7 days before delivery and up to 2 days postpartum.
- Herpes zoster (shingles) is more common in pregnant women (given their relative immunosuppression), and a shingles outbreak in a pregnant woman can be treated with acyclovir.
- Herpes zoster has no known effect on the fetus.

Assessment

1. Pre-conception:
   - Recommend clarification of immune status.
   - Offer serological screening as soon as possible to women who report never having natural disease, varicella vaccination, or who are unsure.
   - Serological testing to check immunity after varicella vaccination is not routinely recommended because immunity following vaccination is often not detectable using currently available blood tests.
   - Offer immunisation for non-immune women. Advise that pregnancy should be avoided for 28 days post-varicella immunisation.
   - Note that, if varicella vaccine has been inadvertently administered in pregnancy, there are no reports of vaccine-induced congenital varicella syndrome.

2. Pregnancy:
   - Ensure varicella immune status is documented in antenatal records and referrals.
   - Counsel sero-negative patients regarding the benefits of postnatal vaccination.
   - Varicella vaccine is contraindicated in pregnancy, but can be given to contacts of a non-immune pregnant patient.
   - If pregnant patient has been in ***contact*** with a diagnosed or suspected case of varicella or herpes zoster, check their immune status immediately, if not already available.

     Contact

     Varicella zoster:
     - *Significant exposure to active varicella is defined as:*
       - *living in the same household, or*
       - *direct face-to-face contact for at least 5 minutes, or*
       - *in the same room for at least an hour.*

     Herpes zoster (shingles):
     - *Transmission of infection from a person with herpes zoster is uncommon, but may occur with household contact if there is sustained exposure to open lesions.*
     - *Transmission risk is:*

- *higher if there is disseminated zoster.*
- *lowered by reducing the rate of viral shedding through the use of occlusive dressings.*

Management

Practice Point

Discuss isolation before referring

Discuss all non-immune exposed patients or patients with suspected varicella with the relevant service (e.g., obstetric registrar, infectious diseases registrar, emergency department) before referring as they will need to isolate the patient to avoid the risk of exposure to others.

Varicella

1. If a non-immune pregnant patient is in contact with an infected person:
    - seek immediate infectious diseases or obstetric advice to arrange post-exposure prophylaxis.
    - arrange Zoster Immunoglobulin (ZIG) within 96 hours. It can sometimes be effective up to 10 days after exposure. See Immunoglobulin Administration.
        - If too late for ZIG, acyclovir may still have a role in post-exposure prophylaxis.
        - No prophylaxis is required if pregnant patient is immune.

2. If patient is pregnant and infected:
    - refer for urgent obstetric or infectious diseases review to exclude complications.
    - closer fetal monitoring will be required to detect fetal varicella syndrome.
    - give acyclovir 800 mg five times a day for at least seven days started within 24 hours of rash.

3. If patient develops severe chickenpox with respiratory symptoms or signs of clinical deterioration refer for immediate obstetric or emergency department review regarding admission.

4. For infants from mothers with perinatal chickenpox:
    - seek infectious diseases advice or refer to emergency department to arrange ZIG or intravenous acyclovir if:
        - a mother develops varicella between 7 days before delivery and 2 days after birth (immediate ZIG required).
        - mother develops varicella > 7 days before delivery and infant is preterm < 28 weeks or low birth weight < 1000 g (intravenous acyclovir required).
        - infant of a seronegative mother is exposed to varicella in first month of life (ZIG required).
        - mother develops varicella between 2 and 28 days after birth (ZIG may be recommended).

- advise that no isolation of baby from mother is needed.
- encourage breastfeeding.

Herpes Zoster (Shingles)

1. Advise non-immune pregnant patients to avoid skin-to-skin contact with anyone with a zoster outbreak.

2. If shingles outbreak in pregnant patient:
   - treat with acyclovir.
   - advise that Zoster has no known effect on the fetus.

3. If mother develops shingles in the postpartum period:
   - neonatal infection is very unlikely and only spreads via direct contact with the rash.
   - advise to cover rash when breastfeeding and handling baby.
   - treat with acyclovir.

4. See also Herpes Zoster (Shingles).

Referral

Do not send non-immune exposed patients or patients with suspected varicella to the antenatal clinic because of the risk of exposure to others.

- Refer for urgent obstetric or infectious diseases review if:
  - non-immune pregnant patient comes into contact with varicella (for ZIG).
  - pregnant patient develops chickenpox.

- If patient is pregnant and develops severe chickenpox with respiratory symptoms or signs of clinical deterioration, refer for immediate obstetric or emergency department review.
- For infants of mothers with perinatal chickenpox, seek infectious diseases advice or refer to emergency department to arrange ZIG or intravenous acyclovir if:
  - mother develops varicella between 7 days before delivery and 2 days after birth (immediate ZIG required).
  - mother develops varicella > 7 days before delivery and infant is preterm < 28 weeks or low birth weight < 1000 g (intravenous acyclovir required).
  - infant of a seronegative mother is exposed to varicella in first month of life (ZIG required).
  - mother develops varicella between 2 and 28 days post birth (ZIG may be recommended).

Information

For health professionals

Further information

- Australian Immunisation Handbook – Varicella (Chickenpox)

- Australian Society for Infectious Diseases 2014 – Management of Perinatal Infections: Varicella Zoster Virus [page 81]

For patients

Better Health Channel – Chickenpox

References

1. Palasanthiran P, Starr M, Jones C, Giles M, editors. Management of Perinatal Infections. Sydney: Australasian Society for Infectious Diseases (ASID); 2014. p. 1-88.

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