ANTEPARTUM CARE

INFECTIONS IN PREGNANCY

HERPES SIMPLEX IN PREGNANCY

Keywords: Herpes, HSV-1, HSV-2, Herpes, STI, sexually transmitted infection, herpes in pregnancy

PURPOSE

- To diagnose women who present with herpes simplex virus (HSV) in pregnancy.
- To provide education and management to prevent maternal HSV transmission to the fetus or neonate. Present the women information how to access support groups and information about HSV.
- Educate the woman about prevention of transmission of HSV to a partner or close contacts.
- Provide the woman with management options to prevent HSV transmission during pregnancy.

BACKGROUND INFORMATION

Herpes simplex viruses can be differentiated into HSV type 1 and HSV type 2. Both types are transmitted across epithelial mucosal cells as well as through skin interruptions, and then migrate to nerve tissues, where they persist in a latent stage. HSV 1 predominates in orofacial lesions and found in the trigeminal ganglia, while HSV 2 is most commonly found in the lumbosacral ganglia. Either of these viruses can infect any region of the body, with rates of HSV 1 currently increasing in the genital region. In response to HSV infection, type specific HSV antibodies are produced e.g. HSV2 infection will stimulate the production of HSV2 antibodies. Development of HSV IgG antibodies may take 2 weeks – 3 months.

The incubation period with infection of HSV 1 or HSV 2 ranges from 2 to 12 days. Most people infected with HSV are unaware they have contacted the virus, and most new infections in pregnant women are asymptomatic.2

Neonatal herpes is associated with high morbidity and mortality; is most commonly acquired at or near the time of delivery, and accounts for approximately 85% of all cases. The remainder of neonatal herpes cases are caused from intrauterine infection resulting from transplacental transmission or ascending infection from the cervix, and the rest occur from postnatal infection caused by contact sources.3 As 70% of the cases of neonatal herpes are acquired from women who shed the virus asymptotically focus has turned to therapeutic approaches to decrease the shedding of the virus regardless of the presence of lesions.4

HSV disease in the neonate can be localised to the skin, eyes and/or mouth, or secondly involve the local central nervous system. The third outcome with the worst prognosis is when the neonate develops disseminated infection with multiple organ involvement. The greatest risk for neonatal infection is if the mother acquires a primary HSV in the third trimester, and particularly within 6 weeks of delivery when viral shedding persists before maternal development of protective antibodies.5

Distinguishing a primary episode of HSV from a non-primary episode in pregnancy cannot be based on clinical findings. Diagnosis is based on a combination of a positive viral finding and a negative serological test or evidence of seroconversion.2
Caesarean section reduces the risk of HSV transmission in women shedding HSV at the time of birth, particularly in women who are HSV type specific antibody negative. The highest risk of transmission is in the absence of pre-existing HSV immunity to either HSV 1 or 2 as shown by lack of detectable HSV antibody. Mismatched antibody type does not confer the same degree of protection against perinatal HSV transmission as antibodies matched to the type of HSV in genital lesions (see algorithm on page 7)

**KEY POINTS**

1. Primary genital herpes infection in pregnancy is associated with an increased risk for perinatal transmission compared to recurrent HSV.  
2. HSV IgG antibody status can help to clarify whether the herpes episode is primary. Determining whether any HSV antibody present is of the same type as the HSV genital lesion assists with risk stratification.  
3. Caesarean section is recommended for women presenting with a primary episode of genital herpes or with prodromal symptoms at the time of delivery, or within 6 weeks of the expected date of delivery.  
4. Women with active recurrent genital herpes should be offered suppressive viral therapy at or beyond 36 weeks of gestation.  
5. Women with recurrent genital HSV have a very small risk of perinatal transmission even if they have an outbreak during the pregnancy. Careful examination for the presence of active lesions at delivery is advised.  
6. Elective caesarean section is not indicated for women with a history of HSV in the absence of active genital lesions or prodromes.

**PREVENTION**

- A women who has a partner positive for HSV, but have not acquired the infection herself may reduce the risk of acquiring the infection by the use of condoms, abstaining from intercourse in the third trimester, or practicing abstinence from sexual relations if lesions are present.

- Inform the woman:
  - Transmission of the virus can occur during asymptomatic shedding.
  - HSV can be transmitted during oral sex.
  - Special attention should be given during the third trimester. Unprotected sexual activity should be avoided and condoms should be used.  
  - To abstain from sexual activities if lesions or prodrome are present.  
  - Lack of history of herpes lesion in either partner does not exclude infection which may be asymptomatic.


- Mothers, family members and health care workers with active herpes lesions should avoid direct contact between the lesions and the neonate. See [Infection Control policy 3.4 Infections in Health Care Workers](#).
SCREENING FOR HSV

- At the booking visit the women should be asked about previous history of HSV for both herself and/or her partner. Document the information on the MR220.
- Routine screening is not offered to antenatal women at KEMH. However, HSV serology screening should be considered for women who has never been tested and their partner is positive for HSV.¹

MANAGEMENT OF A WOMAN PRESENTING WITH A PRIMARY OUTBREAK OF HSV

DIAGNOSIS
Tests to confirm the presence of HSV infection can be divided into two groups:
- viral detection techniques
- antibody detection techniques

- Obtain a FLOQ™ swab which has a brush on the tip (or if unavailable use a dry swab) from the lesion for HSV PCR. Place in a viral transport medium vial (VTM) if available and send to the lab as soon as possible. Immunofluorescence for HSV may be able to provide a rapid result if VTM is used and laboratory staff are available. If urgent immunofluorescence is required liaise with the microbiology registrar or microbiologist on call.

- HSV IgG serology tests detects the presence of antibodies to either HSV 1 or HSV 2.² Type specific serology may assist identification of recurrent HSV, or primary HSV infection enabling appropriate advice regarding HSV management in pregnancy.

  Note: serology is not a substitute for viral detection techniques.³ HSV IgM antibody does not distinguish between recurrent and primary infection and is prone to false positive results. Testing for HSV IgM is therefore not routinely recommended.

ANTENATAL MANAGEMENT

- Women presenting with a primary outbreak of HSV can be offered oral or intravenous aciclovir according to the clinical symptoms.⁴

  Acyclovir 400mg orally, 8 hourly for 5 days

  Rarely if severe disease: Aciclovir 5-10mg / kg / dose IV every 8 hours

  Or

  Valaciclovir 500mg orally, 12 hourly for 5 days

  There is more experience with use of acyclovir in pregnancy than other antiviral agents active against herpes. Valaciclovir is a pro-drug of acyclovir and is
generally considered safe in pregnancy. There is less data regarding famciclovir use in pregnancy.

- Women who present in the antenatal period with a primary episode of genital HSV should also be offered prophylactic aciclovir 400 mg TDS or valaciclovir 500 mg BD at the beginning of 36 weeks gestation.
- Provide women with information to access counselling and written material about HSV.
- Conservative treatment to provide comfort may include:
  - Paracetamol or aspirin to reduce pain and soreness.
  - Betadine paint to dry out blisters and prevent infection.
  - Anaesthetic cream to reduce pain, especially during voiding.
  - Voiding while sitting in warm water may be helpful if the woman is experiencing dysuria.
  - Advise women to keep the area clean and dry to prevent secondary infections. Clothing should be loose-fitting and cotton underwear should be used.
  - Application of ice packs or a cooling pack may provide a soothing effect.

**MODE OF DELIVERY**

**Caesarean section**

Caesarean section is recommended for women presenting with primary episode of genital HSV at time of delivery, or within 6 weeks of the expected date of delivery.

**Vaginal delivery**

- Inform the clinical microbiologist when a woman presents with a primary episode HSV and elects to have a vaginal birth/vaginal birth is unavoidable.
- Management for women who elect to have a vaginal delivery within 6 weeks of a primary outbreak of genital HSV should include:
  - Avoid artificial rupture of membranes.
  - Avoid invasive procedures e.g. fetal blood sample and fetal scalp electrodes. Avoid the use of forceps and vacuum extraction if possible.
  - IV acyclovir is not recommended peripartum in the current Australian Perinatal guidelines, In the UK NICE guidelines IV acyclovir 5 mg/kg TDS is mentioned as an option peripartum, especially when active lesions are present in a preterm vaginal delivery; however there is an insufficient evidence base to prove efficacy in reducing HSV transmission risk.
  - Inform the neonatal medical team when the woman presents. See Neonatal Clinical Guideline Herpes Simplex Virus

**POST PARTUM MANAGEMENT**

- Parents should be advised of the early signs of neonatal HSV infection and advised to seek early medical advice.
- For neonatal management see Neonatal Clinical Guideline Herpes Simplex
Women with active HSV should have education on methods to avoid transmission to the neonate e.g. hand washing, and avoiding kissing the neonate if orofacial HSV is present.\textsuperscript{7}

Breastfeeding is contraindicated if a herpetic lesion is present on the breast.\textsuperscript{5}

**MANAGEMENT OF WOMEN WITH A HISTORY OF *RECURRENT HSV INFECTIONS***

**ANTENATAL**

- Women attending a low risk midwives clinic for antenatal care who have a history of recurrent HSV infections should be referred to the obstetric medical team at approximately 34 weeks gestation to discuss the option of prophylactic aciclovir, and birth management.

- Recurrences of HSV can be treated with episodic therapy which should be started concurrently with the onset of prodromal symptoms or with the onset of lesions
  
  - Or Aciclovir 400mg orally, 8 hourly for 5 days
  
  - Or valaciclovir 500mg orally 12 hourly for 3 days

**Prophylactic aciclovir 400 mg TDS or valaciclovir 500mg BD should be offered to all women to commence at the beginning of 36 weeks gestation until delivery. The higher suppressive dose is recommended due to altered metabolism of antiviral therapy and the altered metabolism of the drug in pregnancy.**

**IN LABOUR**

Examination is required to establish whether active lesions are present.

**Women presenting in labour with no active lesions**

- Caesarean section is not recommended.\textsuperscript{2}

**Women presenting with recurrent lesions that are non-genital**

- Caesarean is not recommended. Cover lesions on sites such as the back, thighs or buttocks with an occlusive dressing.\textsuperscript{2}

- A speculum examination should be performed to exclude cervical, vaginal or labial lesions.\textsuperscript{2}
Women presenting in labour with an active lesion or prodromal symptoms

- Prodromal symptoms such as vulvar pain, burning, itching, tingling, paraesthesias, and pain around the lumbosacral area may indicate an impending outbreak of HSV.², ⁶

- Decisions regarding Caesarean should be made after consultant between the women and medical staff.⁵ In the presence of active lesions and ROM <6h Caesarean section is often recommended¹⁴

- The rate of transmission is <3% for women with recurrent genital HSV presenting with a lesion at time of vaginal birth.²
  - Women should be advised the risk to the neonate is small.
  - If a woman has ruptured membranes at term, birth should be expedited. Prolonged rupture of membranes should be avoided as risk for perinatal infection increases.⁵
  - Avoid invasive procedures e.g. fetal blood sample and fetal scalp electrodes.⁵, ⁶ Avoid the use of forceps and vacuum extraction if possible.⁶, ⁷
  - Notify the neonatal medical team when the woman presents in labour.
  - Notify the Clinical Microbiologist when the women presents in labour.
  - For neonatal management, see NNCU Guideline Herpes Simplex Virus
Management of HSV Algorithm

1.4.4

**History of genital HSV**
(laboratory confirmed)

Serial genital cultures not predictive of shedding during labour so are **not** recommended

Consider use of suppressive antiviral therapy from 36 weeks* in women with multiple recurrent overt lesions or prior if frequent symptomatic recurrences

In labour, careful speculum

No active lesions seen

- Proceed to vaginal delivery.
  - FSE, forceps and vacuum birth may increase risk of transmission

Active lesions seen

- Management of the newborn as per Neonatal Unit Clinical guideline
  - Herpes Simplex

**No prior history of genital HSV**

First genital HSV infection diagnosed during pregnancy

Obtain HSV serology (type specific) and type specific PCR +/- culture (genital swab)

Recurrent infection (HSV Ab +ve to same HSV from genital)

Diagnosis made in the 1st or 2nd trimester

New infection (HSV Ab -ve to same HSV from genital swab)

Diagnosis made in the third trimester

Consider suppressive antiviral therapy from 36 weeks until delivery

Deliver by caesarean section. Perform HSV type specific PCR on genital swab if vaginal delivery unavoidable. Fetal scalp electrode, forceps and vacuum delivery may increase risk of transmission to the newborn
REFERENCES (STANDARDS)


National Standards – 1 Clinical Care is Guided by Current Best Practice.
3 Preventing and Controlling Healthcare Associated Infections

Legislation - Nil
Related Guidelines - Nil
Other related documents – Nil

RESPONSIBILITY

Policy Sponsor Medical Director Obstetrics
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