CLINICAL PRACTICE GUIDELINE

Herpes simplex in pregnancy

This document should be read in conjunction with this Disclaimer

Contents

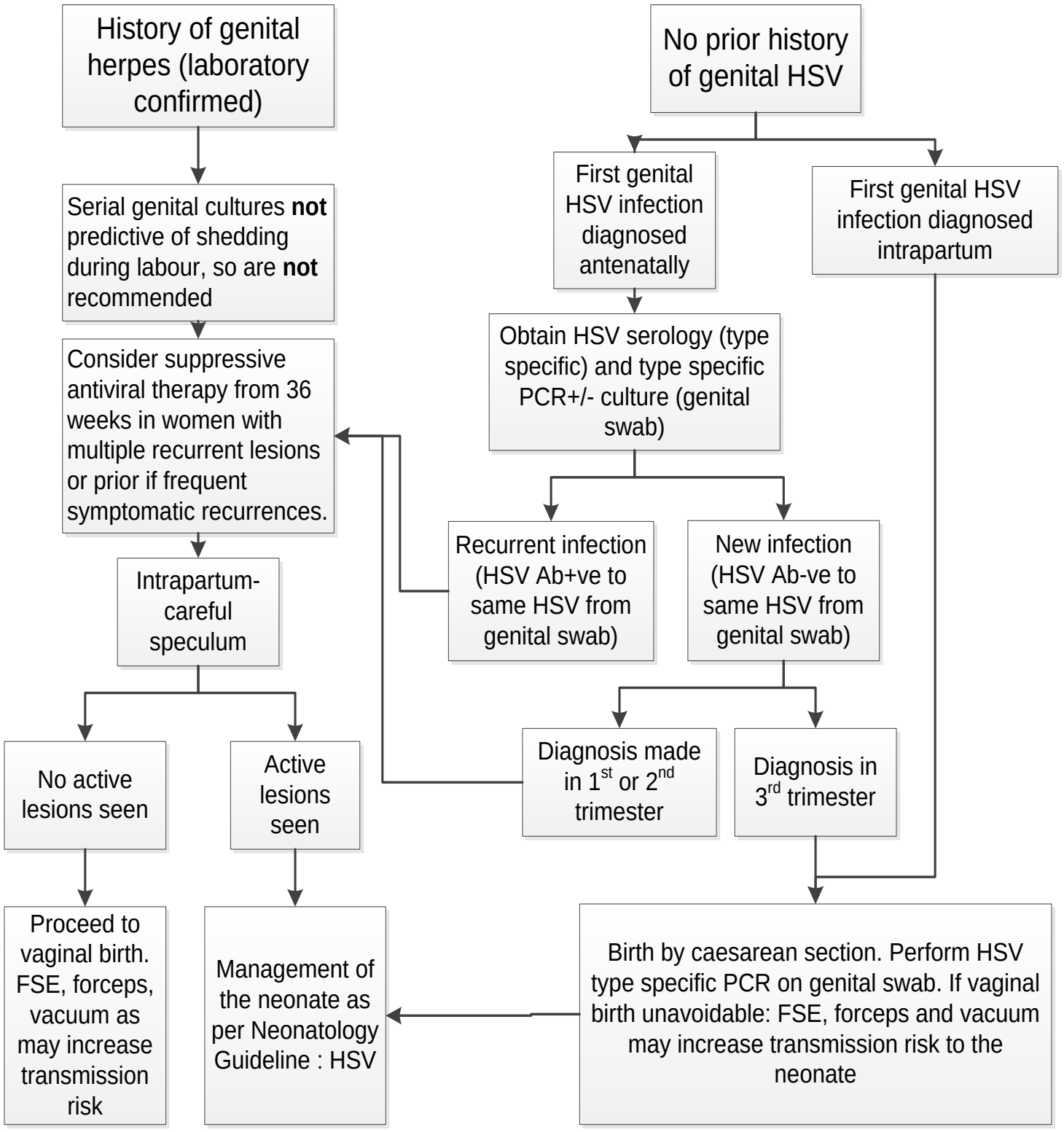
Key points

1. Primary genital herpes infection in pregnancy is associated with an increased risk for perinatal transmission compared to recurrent HSV.[1]
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 birth , or within 6 weeks of the expected date of birth.[2]
4. Women with active recurrent genital herpes should be offered suppressive viral therapy at or beyond 36 weeks of gestation.[1, 3]
5. Women with recurrent genital HSV have a very small risk of perinatal transmission even if they have an outbreak during the pregnancy.[2] Careful

examination for the presence of active lesions at time of birth 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.[1]

Flowchart: Management of HSV: Antenatal & intrapartum[4]



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 genital lesions and 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.[5] 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 two weeks to three 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.[1]

Neonatal herpes is associated with high morbidity and mortality. Acquisition at or near the time of delivery 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 from postnatal infection caused by contact sources.[6] As 70% of the cases of neonatal herpes are acquired from women who shed the virus asymptomatically focus has turned to therapeutic approaches to decrease the shedding of the virus.

HSV disease in the neonate can be localised to the skin, eyes and/or mouth, or involve the local central nervous system. The 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 six weeks of delivery when viral shedding persists before maternal development of protective antibodies.[2]

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 PCR test and a negative serological test or evidence of seroconversion.[1] 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).

Prevention

- A woman who has a partner positive for HSV, but has 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.[7]
  - To abstain from sexual activities if lesions or prodrome are present.[7]
  - Lack of history of herpes lesion in either partner does not exclude infection which may be asymptomatic.
- Provide the woman information where to access information for counselling and education. See: Department of Health, Western Australia, site: Genital Herpes (external web page)
- Mothers, family members and health care workers with active herpes lesions should avoid direct contact between the lesions and the neonate. See Infection Prevention and Management manual: Healthcare Worker Health and Immunisation Policy (Including Pregnant Healthcare Workers): 'Healthcare Workers with Infections' and 'Appendix 3: Recommended Work Restriction for Health Care Workers'

Screening

- 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.[5]

Primary outbreak of HSV: Management of women presenting

Diagnosis

1. Viral detection techniques
    - Use a flocked 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. If urgent PCR is required liaise with the Microbiology Registrar or Microbiologist on call.
2. Antibody detection techniques HSV IgG serology tests detects the presence of antibodies to either HSV 1 or HSV 2.[1] 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.. Testing for HSV IgM is no longer offered at PathWest as HSV IgM antibody does not distinguish between recurrent and primary infection and is prone to false positive results.

Antenatal management

Woman presenting with a primary outbreak of HSV can be offered oral or intravenous aciclovir according to the clinical symptoms.[2]

- Aciclovir 400mg orally, 8 hourly for 5 days

  Or
- Valaciclovir 500mg orally, 12 hourly for 5 days

There is more experience with use of aciclovir in pregnancy than other antiviral agents active against herpes. Valaciclovir is a pro-drug of aciclovir 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 500mg 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 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.[8]
- Application of ice packs or a cooling pack may provide a soothing effect[8]

Mode of birth

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.[2]

Vaginal birth

- 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.[2]
  - Avoid invasive procedures e.g. fetal blood sample and fetal scalp electrodes.[2, 7] Avoid the use of forceps and vacuum extraction if possible.[2, 7, 9]
  - IV aciclovir is not recommended peripartum in the current Australian Perinatal guidelines. In the UK NICE guidelines IV aciclovir 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 Neonatology 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.[9]
- For neonatal management see Neonatology Clinical Guideline HSV.
- 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.[9]
- Breastfeeding is recommended unless a herpetic lesion is present on the breast/nipple[2, 10]
- For women with active lesions on one or both breasts/nipples, contact the Breastfeeding Centre for individualised advice.

Recurrent HSV infections: Management with a history of

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
    - 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 the greater volume of distribution and the altered metabolism of the drug in pregnancy.

Intrapartum

Examination is required to establish whether active lesions are present.

Women presenting in labour with no active lesions

- Caesarean section is not recommended.[1]

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.[1]
- A speculum examination should be performed to exclude cervical, vaginal or labial lesions.[1]

Women presenting in labour with an active lesion or prodromal symptoms

- Prodromal symptoms such as vulvar pain, burning, itching, tingling, paraesthesia's, and pain around the lumbosacral area may indicate an impending outbreak of HSV.[1, 7]
- Decisions regarding caesarean should be made after consultation between the woman and medical staff. 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.[1]
  - Women should be advised the risk to the neonate is low.[11]
  - If a woman has ruptured membranes at term, birth is advised to be expedited.[2] Prolonged rupture of membranes should be avoided to minimise duration of potential exposure to perinatal infection.[2]
  - Avoid invasive procedures e.g. fetal blood sample and fetal scalp electrodes.[2, 7] Avoid the use of forceps and vacuum extraction **if possible**.[7, 9]
  - 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 Neonatology Clinical Guideline: Herpes Simplex Virus

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Related legislation and policies

Legislation - *Health (Miscellaneous Provisions) Act 1911*

Related WNHS policies, procedures and guidelines

KEMH Clinical guidelines:

- Neonatology: Herpes Simplex Virus (HSV)
- Obstetrics & Gynaecology: Sexually Transmitted Infections
- Pharmacy: A-Z Medications

Useful resources (including related forms)

- Department of Health Western Australia: Silver book- A guide for managing sexually transmitted infections. HIV Silver book review Sep- 2018. (Including section- Genital Herpes, pp. 114-116)
- Department of Health Western Australia: Non-notifiable infections: Genital Herpes [webpage]

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