SEXUALLY TRANSMITTED INFECTIONS

HERPES SIMPLEX

Keywords: Herpes simplex virus, HSV-1, HSV-2, sexually transmitted infection, STI, genital herpes

For HSV IN PREGNANCY: See Clinical Guideline Herpes Simplex in Pregnancy.
For NEONATAL HSV: See NCCU Clinical Guideline Infection, Septic Screening and Management.

AIM

• To provide information on the complications, diagnosis, and treatment of herpes simplex virus, including concomitant HIV / immuno-compromise and relevant patient education.

BACKGROUND

Both herpes simplex virus (HSV)-1 and HSV-2 can be genital pathogens. A significant percentage of new genital infections in young sexually active people in developed countries are due to type 1. HSV is one of the commonest genital ulcer diseases and is a significant cause of immediate and long term morbidity. The ulcers have been recognised as facilitating transmission and acquisition of HIV, with this risk doubling during sexual activity. Asymptomatic viral shedding is now known to be an important means of transmission of HSV to sexual partners or the neonate. More than 85% of the HSV-2 sero-positive patients with no clinical history still shed the virus from the genital tract.

Episodes can be classified into:

• Primary infection, when the virus is first contracted, usually severe.
• First episode, non primary infection: the first noticed outbreak, which can be severe or mild.
• Recurrent infection, usually milder than primary infection.

COMPLICATIONS OF GENITAL HERPES INFECTIONS CAN INCLUDE:

• Local: Urinary retention; Adhesion formation; Bacterial or fungal super-infection.
• Neurological: Sacral radiculopathy; Autonomic neuropathy; Encephalitis; Meningitis; Transverse myelitis.
• Disseminated infection
• Autoinoculation: Corneal; Whitlow
• Psychosexual pathology, including shame, denial, anger, anxiety, loneliness, fear, poor self esteem.
• Erythema multiforme
• Atypical manifestations may occur and be diagnosed as: Recurrent vaginitis / Candida / UTI in females; or Folliculitis / condom allergy / tinea cruris in males.

DIAGNOSIS

• Definitive diagnosis is based on direct testing of lesions, but may be made clinically, on a combination of suggestive history and serology.
• Some centres advise against using herpes serology as a screening test, due to the difficulty of interpreting results in the absence of a clinical history. At KEMH, epidemiologic testing is encouraged. Testing is certainly encouraged in cases where:
  ➢ Suggestive genital lesions have not returned positive direct test, as indirect evidence
  ➢ Discordant couples, when requested
  ➢ HIV positive patients
  ➢ History of possible exposure to genital herpes.
• Direct testing on vesicle fluid, ulcers or crusts:
Direct immunofluorescence ulcer swab, Viral PCR swab whose sensitivity and specificity is high, Culture swab, which is now only performed routinely on CSF.

**Serology:**
- In asymptomatic screening HSV-2 IgG only is performed.
- HSV-1 IgG can also be ordered, though interpretation of an isolated positive result is difficult, due to the high prevalence of HSV-I antibodies in the general population.
- If recent infection is suspected, HSV-1 and HSV-2 IgM can be requested.
- Also available are ELISA EIA assays, performed if Western Blot is equivocal.
- Useful for discordant couple counselling, or where suspect lesion swabs are negative.
- Does not replace NAAT/ PCR or culture.

**Suspected Aciclovir resistance.** This occurs very rarely, but if suspected on clinical grounds, samples should be collected in **viral transport medium**. The reasons for doing the test must be included on the request form with the note “? Aciclovir-resistant strain”.

**TREATMENT**

- Topical anaesthetic gel can be used if necessary for symptom control, but there is a risk of sensitisation. Paracetamol at the usual doses is recommended, as well as topical antifungals if thrush is present. Salt water bathing of the affected area may assist treatment during minor recurrences.
- Topical antiviral and antibiotic creams are ineffective.
- Other potential treatments in special circumstances include Ganciclovir as well as topical Imiquimod.
- HIV positive patients may need prophylaxis with Valaciclovir 500mg twice a day, the twice daily interval being more effective than 1g daily.
- Patients should be told that prophylactic antiviral therapy does not cure the infection, change the natural history of the disease, nor completely eliminate subclinical shedding.
- The patients on suppressive therapy should be encouraged to have a trial of cessation of treatment after 6 months of continuous therapy. Decisions concerning ongoing therapy should be based on the subsequent pattern of recurrences.
- Treatment should be commenced as soon as possible from symptoms commencing.

**Primary and non-primary first episode infection:**

- Treatment should always be offered, within 5 days of the start of the episode, or while new lesions continue to appear. Patients should be assessed for complications as above. Options include:
  - **Aciclovir** 200mg five times daily, for five to ten days; OR 400mg three times a day for 5-10 days OR
  - **Valaciclovir** 500mg twice a day for 5-10 days

**Recurrences**

- Are usually located in the genital area, but may be on the buttocks or thighs. For recurrent episodes treatment can be offered in addition to saline bathing and analgesia. This can include:
  - **Aciclovir** 200mg five times daily for up to 5 days;
  - OR 400mg three times a day for 5 days OR
  - **Valaciclovir** 500mg twice a day for three to five days OR
  - **Famciclovir** 500mg stat then 250mg twice a day for 3 doses;
    - OR 1000mg twice daily for 1 day;
    - OR 125mg twice daily for 5 days.
Suppressive therapy

- Can be offered to patients experiencing multiple outbreaks, depending on the patient's situation and wishes. This can include:
  - Aciclovir 200mg three times a day OR 400mg twice a day OR
  - Valaciclovir 500mg daily (if <10 outbreaks/year) OR 1000mg daily if >10 outbreaks/year OR
  - Famciclovir 250mg twice a day with re-evaluation after 12 months.

- Patients should be referred to their GP for continuing PBS authority prescriptions, as the hospital does not provide continuing prescriptions for these agents.

- Educate patients that antiviral medications suppress viral shedding, however not by 100%.

HSV IN PATIENTS WITH HUMAN IMMUNODEFICIENCY VIRUS (HIV) / IMMUNO-COMPROMISED

HSV is the commonest STI in HIV positive individuals. In men who have sex with men (MSM) who are newly diagnosed as HIV positive, seroprevalence of HSV-2 or syphilis has been shown to be four times more prevalent. The severity of HSV infection increases with increasing immunosuppression, and the HSV accelerates and enhances HIV replication. Additionally, the presence of other STI's increases HIV shedding from the genital tract thereby increasing HIV infectiousness.

HSV positive patients may present with atypical manifestations of HSV, requiring laboratory confirmation. Such manifestations become more likely with advancing immunosuppression. Atypical manifestations may include: Hyperkeratotic, papillomatous lesions resembling condylomata acuminata; Vegetating, ulcerating plaques; Chronic persistent or necrotic ulceration; Generalised popular eruptions; and Disseminated disease, producing oesophagitis, pneumonitis or hepatitis.

Management

- Specimens for PCR testing should be taken from a de-roofed blister or from the advancing edge of an ulcer.
- If culture and / or PCR testing are negative and the lesion is atypical and not responding to therapy. A skin biopsy can be taken for PCR, viral culture and sensitivity testing.
- Treat patients with HSV that are immuno-compromised with:
  - Aciclovir 200mg three times daily OR 400mg twice daily OR 800mg four times daily (if advanced symptomatic HIV disease)
  - Valaciclovir 1g daily OR 500mg twice a day
  - Famciclovir 500mg twice daily.

Occasionally patient specific doses may be required, dependent of clinical circumstances and creatinine clearance. Note: Aciclovir suppression therapy has not been found to prevent/ reduce the HIV acquisition rates in sexual partners who are HIV negative and HSV positive.

- Primary episodes should be treated for 7-10 days and recurrent for 5 days, however treatment lengths may be longer, and depend on individual patient morbidity and clinical conditions.
- Rarely, for severe episodes, intravenous Aciclovir may be required (10mg / kg 8 hourly).
- In cases of Aciclovir –resistant HSV, topical Foscarnet (1% cream five times daily) may be used. Other possibilities include topical (3% gel).

- Education / Follow-up
- Follow-up or referral is determined by the practitioner, as required.
- Encourage safe sex practices. Advise that viral shedding is high in the first few days of lesions
- Partners: Provide serological testing and information on viral shedding and transmission.
- Herpes is not a notifiable infection. Opportunistically test for other STI's.
REFERENCES (STANDARDS)


National Standards – 1.8, 3.11, 3.13 & 4
Related Policies –
- Department of Health WA: *IC 0164/13: Patient Confidentiality* (2013); *IC 0177/14: Practice Code for the Personal Health Information Provided by the Department of Health* (2014); *OD 0296/10: Interagency Management of Children Under 14 Years who are Diagnosed with a Sexually Transmitted Infection (STI)* (2010); *OD 0344/11: Mandatory Reporting of Sexual Abuse of Children Under 18 Years* (2011)

Other related documents –
- KEMH Clinical Guidelines: Obstetric HSV: *Herpes Simplex in Pregnancy; Sexually Transmitted Infections; Neonatal HSV: NCCU Infection, Septic Screening and Management.*
- ECU / DoH WA: Online package for health professionals: *WA STI Education Project*

**RESPONSIBILITY**

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