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***BCCDC Non-certified Practice Decision Support Tool
Genital Herpes Simplex Virus (HSV)***

GENITAL HERPES SIMPLEX VIRUS (HSV)

DEFINITION

Genital herpes simplex infection is a viral infection caused by the herpes simplex virus (HSV) type 1 or 2.

CAUSES

HSV 1 and HSV 2 are transmitted during close skin or mucus membranes contact with an infected person who is shedding the virus.

PREDISPOSING RISK FACTORS

- close skin-to-skin (or mucus membrane) contact with an individual who is shedding HSV virus
- current or past partner who has an infection with HSV
- recurrences may be associated with menses, emotional stress, sexual intercourse, surgery, medications, illness
- transmission may occur during periods of sub-clinical shedding when patients are asymptomatic.

TYPICAL FINDINGS

Sexual Health History

HSV is often asymptomatic or sub-clinical. Clients are often unaware that they have an HSV infection.

The infection may present in the following ways:

Primary HSV Infection:

Approximately 50% of people who present with a first episode of symptomatic genital herpes have a primary infection. The primary infection is associated with a more prolonged and symptomatic infection than recurrent episodes of HSV.

Primary infection occurs in an HSV antibody negative individual. The usual incubation period is 2 -21 days. Symptoms of primary infection are sometimes severe (e.g., swollen lymph nodes, multiple lesions, fever) and can last up to 3 weeks. Systemic symptoms are present in 58-62% of clients.

Non-primary First Episode HSV Infection:

This is a first clinical presentation of an HSV infection in someone who has pre-existing antibodies to HSV 1 or 2. Some people are unaware of their history of infection or have a history of other HSV lesions such as cold sores. In these presentations, previous antibody development attenuates the severity of the disease. Symptoms are milder and shorter in duration than those associated with a Primary HSV infection. Systemic symptoms are present in 16% of these clients.

Recurrent HSV Infection:

Recurrence of HSV symptoms occurs in HSV antibody positive individuals when there is reactivation of existing infection. Symptoms may resemble those of non-primary first episode.

Physical Assessment

Offer clients presenting with a potential HSV infection routine STI screening. The extent of the outbreak will determine the type of screening methods offered. For instance, in the presence of extensive vulvar or cervical involvement, a pelvic exam may be deferred at this visit and replaced with a urine screen or a blind vaginal swab collected by the clinician or the client.

All Genders:

Symptoms can range from mild to severe and may include the following:

- prodromal symptoms: occurs prior to the appearance of lesions and includes focal burning, itching and/or tingling
- flu-like symptoms (e.g., fever, malaise)
- painful lesions that may be ulcerative, scabbed, vesicle or blister-like appearing in clusters or as a single sore to affected skin
- itching, burning, irritation, erythema to the affected skin
- ulcerative lesions may persist for 4 to 15 days or up to three weeks with a primary infection
- inguinal nodes may be swollen and tender bilaterally or only on one side
- urethral inflammation
- dysuria

Males:

- urethral discharge – usually clear and mucoid
- edema of penis

Females:

- edema of labia
- lesions on the cervix
- HSV cervicitis (occurs in 90% of women with primary genital HSV)
- abnormal vaginal discharge - may be purulent or bloody with primary genital HSV

Diagnostic Tests

Swab: HSV Polymerase Chain Reaction (PCR)

HSV PCR swab is the recommended screening test for lesions that are presumed to be HSV.

Clinical considerations for HSV PCR:

- consider testing any lesion described by the client or assessed by the clinician as being clinically suspicious of HSV with an HSV PCR swab
 - a PCR is highly effective and may be used even if the lesion is dry and/or the client is on antiviral medication
- ideally, fluid from vesicles or an ulcer is collected on the swab for best results.

Interpretation of HSV PCR results:

- HSV type 1 found
- HSV type 2 found
- HSV none found:
 - a negative HSV PCR result does not rule out genital herpes. A negative result may indicate that there was not enough viral shedding to permit detection with the PCR swab
- Varicella Zoster Virus (VZV) found:
 - if the PCR demonstrates VZV, consult and/or refer for potential antiviral medications to expedite healing and reduce the risk of post-herpetic neuralgia which may accompany herpes zoster (shingles)
 - Refer to the BCCDC Communicable Disease Manual, Chapter 1, Varicella Zoster (2004) for additional potential follow-up
 - Herpes zoster is the reactivation of latent varicella infection (chicken pox) and presents with symptoms that are similar to herpes simplex virus including vesicular lesions

Serology:

HSV serology is not included in routine STI screening serology. Routine STI screening serology includes:

- Syphilis
- HIV

HSV Case-Specific Serology

The following serology is not routinely collected during STI screening; please refer to the specific requirements outlined below for appropriate use.

HSV IgG: Antibody Test

A positive HSV IgG test indicates previous exposure and antibody formation to HSV and may not be specific to the current episode. Antibodies may take 12 to 16 weeks to form after an exposure. HSV IgG is not HSV type specific.

HSV IgG antibody testing may be considered when:

- confirming or ruling out a primary HSV infection in a client with no previous history of HSV infection (e.g. cold sores, or genital HSV)
 - if the test is negative it is repeated in 12 to 16 weeks to assess for antibody presence representing seroconversion
 - if the test is positive it indicates antibody response to a previous HSV infection
- HSV IgG antibody testing must be accompanied by:
 - thorough pre & post test discussion given the high prevalence of asymptomatic HSV in the general population
 - discussion regarding the likelihood that the test may come back positive because of the high prevalence of subclinical infection that occurs. Clients may have a subclinical infection related to previous childhood infection or from sexual exposure that is not related to this current presentation
 - acknowledgement that the test is unable to detect the HSV type or location on the body in asymptomatic infections – only an HSV PCR swab from a lesion can support site specific diagnosis

HSV type specific serology (TSS)

HSV type specific testing may be done by the BC Public Health & Microbiology Reference Laboratory under the following circumstances: RNs must note on the provincial lab requisition – *send for HSV TSS*:

- pregnant women, with unknown HSV status, with sexual partner(s) with diagnosed HSV infection
- clients who are HIV positive
- clients who have a partner who is HIV positive
- clients who have partner(s) who have HSV (diagnosed and typed)
- clients who have undergone at least 2 attempts to swab lesions suggestive of HSV where results have been *HSV none found*

If the client does not have a confirmed diagnosis of HSV by PCR swab or serology, then prior to commencing with HSV type specific serology, the client requires either a PCR swab of a lesion (when present) or HSV IgG antibody testing to confirm the presence of HSV infection and/or antibodies. Consider the window period when undertaking HSV type specific serology (e.g. 12-16 weeks), by 12 weeks, more than 70% of individuals will have sero-converted.

Clients who do not meet the BC Public Health & Microbiology Reference Laboratory criteria and would like HSV TSS may pay for this test at some local labs. Refer the client to a physician or NP for the appropriate lab requisition. The client may consider having an HSV IgG test initially; if this is negative they will not need HSV type specific serology.

CLINICAL EVALUATION

The diagnosis of genital HSV is based on the health history and clinical findings.

- select the appropriate testing option based on the health history and clinical findings
- determine the client's primary concern regarding HSV infection and provide appropriate support, and follow-up

MANAGEMENT AND INTERVENTIONS

Goals of Treatment:

- increase comfort and reduce symptoms related to viral infection
- treat viral infection
- prevent complications
- reduce transmission

TREATMENT OF CHOICE

Early initiation of antiviral treatment during an outbreak may reduce the severity of symptoms and shorten the duration of the lesions. Clients require a consult or referral to a physician or NP for prescribed treatment which may include the following based on presentation and history:

- antiviral medications - acyclovir, valacyclovir, famciclovir
- for frequent recurrent episodes clients may choose daily suppressive therapy to:
 - reduce transmission
 - reduce number and severity of outbreaks
- for infrequent recurrent episodes, clients may choose to use episodic therapy (given over 3-7 days) to:
 - reduce transmission by shortening duration of outbreak
 - reduce severity of outbreak and lessen symptoms
- no treatment

Client Symptomatic Treatment:

The lesions and lymphadenopathy accompanying HSV infection may be painful. Analgesia and other symptomatic interventions may decrease the discomfort associated with an outbreak.

Comfort measures may include:

- analgesics for pain
- bathing in warm water to soothe the sores
- wearing loose clothing and gently drying the affected areas
- applying an ice-pack wrapped in a clean covering to apply to the affected area
- urinating in warm water or pouring water over the genitals while urinating to decrease dysuria
- drinking plenty of fluids to keep urine dilute

PREGNANT OR BREASTFEEDING

Refer to physician or NP.

PARTNER COUNSELLING AND REFERRAL

- unless symptomatic of infection, sexual partners do not require treatment
- partner notification is completed by the client

POTENTIAL COMPLICATIONS

Complications are most common when clients are experiencing a primary HSV infection and may include:

- urethritis
- cervicitis
- aseptic meningitis (rare)
- neonatal HSV infection; this occurs most readily when a woman experiences a primary outbreak of HSV type 1 or 2 infection during her pregnancy, but has not developed an antibody response prior to delivery

CLIENT EDUCATION

Compassionate counselling is an important component of HSV care and follow-up. Upon receiving a diagnosis of HSV infection, clients may feel afraid of being judged and have concerns about telling their partners. Loneliness, depression, feelings of decreased self-esteem, and anxiety about the long-term impacts of the infection are sometimes significant concerns for the client.

Counsel client that:

- HSV is a life-long infection, but symptoms are highly treatable and early initiation of treatment may reduce the duration and severity of symptoms.
- HSV infections are common, often asymptomatic, and people may be unaware that they have the infection.
- HSV may be transmitted during an outbreak
- HSV may be transmitted in the absence of symptoms or lesions
- skin-to-skin contact during oral, vaginal, or anal sex may transmit both types of the HSV virus
- both HSV 1 and HSV 2 can occur either genitally and/or orally. In British Columbia, within the general population of adolescents and adults, HSV 1 accounts for up to 50% of all genital HSV infection
- recurrences may be preceded by warning signs, known as a prodrome, which includes focal itching, burning, tingling, or discomfort
- medications are available for suppressive and episodic treatment and may reduce the transmission of HSV

- it is important to talk with present and future sexual partners about the infection, assistance regarding strategies for talking with partners about HSV can be offered
- having an HSV infection increases the risk of acquiring and transmitting HIV and other STI
- depending on the location of the lesions, condom use may reduce the risk of transmission by approximately 50%
- a negative swab for HSV PCR does not necessarily indicate the absence of HSV infection
- if the HSV PCR swab for present symptoms is negative and the symptoms recur, it is important to obtain another swab as soon as the client notices symptoms
- for most people HSV recurrences will subside in frequency over time

CONSULTATION OR REFERRAL

Refer and/or consult with a physician or nurse practitioner for the following clients:

- pregnant or breastfeeding clients who require antiviral or other prescription treatments
- clients with an HSV PCR result that indicates herpes zoster (shingles)
- clients with extensive primary outbreaks
- clients who require an antiviral prescription

DOCUMENTATION

- infection is not reportable in BC
- document as per agency guidelines

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