DST-1007 Mucopurulent Cervicitis (MPC)

DEFINITION

Inflammation of the cervix with mucopurulent or purulent discharge from the cervical os.

POTENTIAL CAUSES

Bacterial:

- Chlamydia trachomatis (CT)
- Neisserria gonorrhoeae (GC)

Viral:

- herpes simplex virus (HSV)

Protozoan:

- Trichomonas vaginalis (TV)

Non-STI:

- chemical irritants
- vaginal douching
- persistent disruption of vaginal flora

PREDISPOSING RISK FACTORS

- sexual contact where there is transmission through the exchange of body fluids
- sexual contact with at least one partner
- sexual contact with someone with confirmed positive laboratory test for STI
- incomplete STI medication treatment
- previous STI

TYPICAL FINDINGS

Sexual Health History

- may be asymptomatic
- sexual contact with at least one partner
- increased abnormal vaginal discharge
- dyspareunia
- bleeding after sex or between menstrual cycles
- external or internal genital lesions may be present with HSV infection
- sexual contact with someone with confirmed positive laboratory test for STI

Physical Assessment

Cardinal Signs

- mucopurulent discharge from the cervical os (thick yellow or green pus) and /or friability of the cervix (sustained bleeding after swabbing gently)

The following may also be present:

- abnormal change in vaginal discharge
- cervical erythema/edema

Other Signs

- cervicitis associated with HSV infection:
  - cervical lesions usually present
  - may have external genital lesions with swollen inguinal nodes

Notes:

1. Clients may experience mild to moderate bleeding during cervical screening with spatula, cytobrush and/or endocervical nucleic acid amplification testing (NAAT) for gonorrhea (GC) and chlamydia (CT). This is common and does not necessarily indicate mucopurulent cervicitis (MPC). Friability, which includes frank and sustained bleeding post-cervical screening, is a potential sign of MPC.
2. Clients who present with symptoms of MPC should also be assessed for signs of pelvic inflammatory disease (PID) through bimanual exam for tenderness. If PID is present, consult with or refer to a physician or nurse practitioner (NP) for further assessment.
3. A bimanual exam may be too uncomfortable for clients with cervical lesions due to HSV infection; they should be referred to a physician or NP for further assessment and treatment.

DIAGNOSTIC TESTS

Full STI screening is recommended, including:

- vaginal swabs for:
  - yeast
  - bacterial vaginosis
  - GC/CT/trichomonas NAAT

AND

- cervical swabs for:
  - GC culture and sensitivity (C&S)
  - GC/CT NAAT – if vaginal specimen not collected
  - HSV polymerase chain reaction (PCR), if lesions are present on the cervix

CLINICAL EVALUATION/CLINICAL JUDGMENT

- treat all clients with MPC, as indicated by mucopurulent discharge visible from the cervical os, even when no laboratory results are available
- treat all persons identified as a sexual contact
- if PID or HSV is clinically suspected; see *PID DST* or *HSV DST*

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- treat infection
- prevent complications
- prevent the spread of infection

TREATMENT OF CHOICE

Treatment	Notes
First Choice cefixime 800 mg PO in a single dose **and** azithromycin 1 gm PO in a single dose **OR** ceftriaxone 250 mg IM in a single dose **and** azithromycin 1 gm PO in a single dose **Second Choice** cefixime 800 mg PO in a single dose **and** doxycycline 100 mg PO BID for 7 days **OR** ceftriaxone 250 mg IM in a single dose **and** doxycycline 100 mg PO BID for 7 days **Third Choice** azithromycin 2 gm PO in a single dose	**General:** 1. Treatment covers both gonorrhea and chlamydia. 1. Future GC Treatment regimens will continue to reflect national recommendations in association with local GC antimicrobial resistance trends (AMR) trends. 2. Retreatment is indicated if the client has missed 2 consecutive doses of doxycycline or has not completed a full 5 days of treatment. 3. Consult physician or NP if client is unable to use cefixime, ceftriaxone, or azithromycin. 4. See BCCDC STI Medication Handouts for further medication reconciliation and client information. 5. See Monitoring and Follow-up section for test-of-cure (TOC) requirements. **Allergy and Administration:** 6. DO NOT USE ceftriaxone or cefixime if history of allergy or anaphylaxis to cephalosporins. Consult with or refer to a physician or NP if history of anaphylaxis or immediate reaction to penicillins. 7. DO NOT USE azithromycin if history of allergy to macrolides. 8. DO NOT USE doxycycline if pregnant and/or allergic to doxycycline or other tetracyclines. 9. If an azithromycin or doxycycline allergy or contraindication exists, consult with or refer to a physician or NP for alternate treatment. 10. Azithromycin and doxycycline are sometimes associated with gastrointestinal adverse effects. Taking medication with food and plenty of water may minimize adverse effects. 11. The preferred diluent for ceftriaxone IM is 0.9 mls lidocaine 1% (without epinephrine) to minimize discomfort. 12. DO NOT USE lidocaine if history of allergy to lidocaine or other local anesthetics. Use cefixime PO as alternate treatment. 13. For IM injections of ceftriaxone the ventrogluteal site is preferred. 14. Advise the client to remain in the clinic for at least 15 minutes-post IM injection in case of anaphylactic reaction to treatment. Provide anaphylaxis treatment as required, using BCCDC CDC Manual- Chapter 2: Immunization – Part 3: Management of Anaphylaxis in a Non-Hospital Setting, November 2016. 15. If serious allergic reaction develops including difficulty breathing, severe itchiness, have the client inform clinic staff immediately. If symptoms develop after leaving the clinic, advise the client to seek immediate emergency care. 16. Advise client they may experience pain redness and swelling at the injection site. If any of these effects persist or worsen advise to contact health care provider.

Treatment	Notes
	17. Recent data has emerged regarding azithromycin and QT prolongation. Although rare, it is more significant in older populations, those with pre-existing heart conditions, arrhythmias or electrolyte disturbances. It is unclear how significant these findings are in young to mid-age healthy adults consuming a one-time dose of azithromycin; however, please use the following precautions: Consult with or refer to an NP or physician if the client: ○ has a history of congenital or documented QT prolongation. ○ has a history of electrolyte disturbance in particular hypokalemia, hypomagnesaemia. ○ has clinically relevant bradycardia, cardiac arrhythmia or cardiac insufficiency. ○ is on any of the following medications: a) Antipsychotics: pimozide (Orap®), ziprasidone (Zeldox®) b) Cardiac: dronedarone (Multaq®) c) Migraine: dihydroergotamine (Migranal®), ergotamine (Cafergot®)

PREGNANT OR BREAST-/CHEST-FEEDING CLIENTS

For all pregnant or breast-/chest-feeding clients, consult with or refer to a physician or NP.

PARTNER COUNSELLING AND REFERRAL

Counsel clients to notify people who may have been exposed through sexual contact within the previous 60 days that they require testing and treatment to cover chlamydia and gonorrhea. If no sexual contact in the past 60 days then the client may notify their last sexual contact regarding testing and treatment (see *Treatment of STI Contacts DST*).

MONITORING AND FOLLOW-UP

Follow-up is based on test results or recurrence of symptoms. If test results positive for STI, refer to appropriate *STI DST* for monitoring and follow-up.

POTENTIAL COMPLICATIONS

- pelvic inflammatory disease (PID)
- infertility
- ectopic pregnancy
- chronic pelvic pain
- sexually-acquired reactive arthritis
- disseminated gonococcal infection (DGI)

CLIENT EDUCATION

Counsel client regarding:

- abstaining from sexual activity during the 7-day course of treatment or for 7 days post-single-dose therapy for clients and their contacts.
- informing last sexual contact AND any sexual contacts within the last 60 days that they require testing and treatment.

- the appropriate use of medications (dosage, side effects, and need for re-treatment if dosage not completed, or symptoms do not resolve).
- harm reduction (condom use significantly reduces the risk of transmission).
- cleaning sex toys between use and using condoms if sharing sex toys
- the benefits of routine STI screening.
- the potential complications of untreated cervicitis.
- co-infection risk for HIV when another STI is present.
- the asymptomatic nature of STI.
- the importance of revisiting a health care provider if symptoms persist.

CONSULTATION AND/OR REFERRAL

Consult with or refer to a physician or NP in the following situations; when:

- assessment indicates PID
- HSV infection is suspected
- syphilis infection is suspected
- client is pregnant and/or breast-/chest-feeding
- recurrent MPC is suspected
- symptoms persist following MPC treatment completion

DOCUMENTATION

- MPC is not reportable
- as per agency policy

REFERENCES

More recent editions of any of the items in the reference list may have been published since this DST was published. If you have a newer version, please use it.

Atashili, J., Poole, C., Ndumbe, P.M., Adimora, A.A. & Smith, J.S. (2008). Bacterial vaginosis and HIV acquisition: A mete-analysis of published studies. *AIDS*, 22(12), pp.1493-1501.

Australasian Sexual Heatlh Alliance (ASHA). (2016). Cervicitis. In: *Australian STI Management Guidelines for Use in Primary Care* [Internet].

British Columbia Centre for Disease Control (BCCDC). (2014). *British Columbia treatment guidelines. Sexually transmitted infections in adolescent and adults*. Clinical Prevention Services, BCCDC.

BCCDC. (2009). *Communicable Disease Manual: Chapter 2: Immunization Program.* Vancouver: BCCDC.

BCCDC. (2013). *Vaccine administration*. BCCDC.

BCCDC Public Health Laboratory (BCCDC PHL). (2016). *Laboratory trends*. Vancouver, BC.

Centre of Excellence for Transgender Health (CoE). (2016). *Guidelines for the primary and gender-affirming care of transgender and gender nonbinary people*.

Centers for Disease Control (CDC). (2015). Diseases characterized by urethritis and cervicitis. In: *2015 Sexually Transmitted Diseases Treatment Guidelines [Internet]*. Atlanta, GA.

Holmes, K., Sparling, P., Stamm, W., Piot, P., Wasserheit, J., Corey, L., Cohen, M., & Watts, H. (2008). *Sexually transmitted diseases* (4th ed). Toronto, ON: McGraw Hill Medical.

Marrazzo, J.M., & Martin, D.H. (2007). Management of women with cervicitis. *Clinical Infectious Diseases*, 44, pp.S102-S110.

Marrazzo, J., Wiesenfeld, H., Murray, P., Busse, B., Meyn, L., Krohn, M. & Hillier, S. (2006). Risk factors for cervicitis among women with bacterial vaginosis. *The Journal of Infectious Diseases*, *193*(5), pp.617-624.

Marrazzo, J. (2005). Mucopurulent cervicitis: no longer ignored, but still misunderstood. *Infectious Disease Clinics of North America*, 19(2), p.333.

Pattman, R., Snow, M., Handy, P., Sankar, K.N. & Elawad, B. (2005). *Oxford Handbook of Genitourinary Medicine, HIV, and AIDS*, 1st Edition, Copyright (c) 2005 Oxford University Press.

Public Health Agency of Canada (PHAC). (2014). Supplementary statement for the recommendations related to the diagnosis, management, and follow-up of vaginal discharge. In: *Canadian Guidelines on Sexually Transmitted Infections [Internet]*.

PHAC. (2017). 2016 Updates Summary. In: *Canadian guidelines on sexually transmitted infections*.

Taylor, S., Lensing, S., Schwebke, J., Lillis, R., Mena, L., Nelson, A. & Lee, J. (2013). Prevalence and treatment outcome of cervicitis of unknown etiology. *Sexually Transmitted Diseases*, 40(5), pp.379-385.