CHLAMYDIA TRACHOMATIS

What's New

Some changes to sources of supporting patient information

Introduction

Chlamydia trachomatis is the most prevalent bacterial sexually transmitted infection in Scotland. Studies suggest that as many as 1 in 10 people under the age of 25 attending healthcare settings may be infected. The rate of transmission between sexual partners may be as high as 75%.

Chlamydia testing should be for clinical indications or a patient request and should be in the context of a risk assessment and full testing for sexually transmitted infections. The only exception would be MSM where opportunistic testing should be carried out in case asymptomatic chlamydia facilitates HIV acquisition.

Symptoms and Signs

Men

- Asymptomatic in over 50%
- Urethral discharge
- Dysuria

Women

- Asymptomatic in up to 90%
- Increase in vaginal discharge
- Dysuria
- Deep dyspareunia
- Post coital, intermenstrual bleeding or breakthrough bleeding
- Lower abdominal pain
- Mucopurulent cervicitis with or without contact bleeding
- Pelvic tenderness
- Cervical motion tenderness

Rectal Infections

- Usually asymptomatic but may cause anal discharge and anorectal discomfort

Rates of rectal infections in MSM have been estimated at between 3% and 10.5%. Some studies in women report high rates (up to 77.3%) of concurrent urogenital and anorectal infection. Other studies however, report lower rates. Not all women with rectal chlamydia report anal sex. Further studies are needed to ascertain the utility of targeted versus routine rectal sampling in women.

Pharyngeal Infection

- Usually asymptomatic

Rates of chlamydia carriage in MSM range from 0.5 to 2.3%. There is a paucity of good data on rates of pharyngeal infections in women.

Diagnosis Of Chlamydial Infection

- In all West of Scotland boards chlamydia testing is provided as a dual NAAT test for chlamydia and gonorrhoea using a variety of platforms.
- Good sample collection technique improves sensitivity.
- Patients presenting within two weeks of an exposure giving rise for concern should be asked to return for testing / retesting two weeks after the exposure.

	Genital	**Pharyngeal (all NAAT tests unlicensed)**	**Rectum (all NAAT tests unlicensed)**	
Males	First Void Urine	Offer pharyngeal swab to all MSM	Offer rectal swab to all MSM	Blind swab if no rectal symptoms Proctoscopy if rectal symptoms
Females	Vulvovaginal swab (several studies indicate that vulvovaginal swab sensitivities are greater than those of cervical swabs). First Void Urine in females has lower sensitivity for the diagnosis of chlamydia and GC compared to other specimens so is not recommended. Urethral swab in women who have undergone hysterectomy (in addition to vulvovaginal swab)		If anal intercourse has taken place	

Instructions for specimen collection

Urine:	20ml first void urine (NB: technique should be carefully explained to patient, to ensure that the correct sample is obtained) in a plain universal container. The patient must not have urinated for at least one hour (or 2 hrs for some kits) NB: Do not insert urinalysis dipsticks in the sample, as it may introduce contamination and adversely affect the amplification process.
Vulvovaginal swab:	This may be self taken by patient (self obtained vulvovaginal swab (SOLVS) or by the clinician. Insert the dry swab approx 5 cm into the vagina and gently rotate the swab for 10 to 30 seconds. Bleeding may reduce sensitivity.
Pharyngeal swab:	Rub the swab over the posterior pharynx and tonsillar crypts.
Rectal swab:	Proctoscopy: The swab should be rubbed against the rectal wall. Blind: The swab should be inserted 3cm into the anus and rotated once gently pushing upwards keeping in place for 10-30 seconds.

Lymphogranuloma Venerum

LGV is a sexually transmitted infection (STI) caused by one of three invasive serovars (L1, L2 or L3) of *Chlamydia trachomatis.*

'Classic' LGV is a condition endemic in heterosexuals in areas of Africa, India, S.E. Asia and the Caribbean where it manifests as genital ulcer disease and lymphadenopathy (without proctitis).

LGV re-emerged in Europe in 2003 with subsequent outbreaks in major cities across the European area, the largest of which has been in the UK with 5302 diagnosis reported by the end of 2016. 99.7% were made in men. In Scotland, although there was an increase from an annual diagnosis of 11 from 2012 to 2015 to 45 during 2016, and 23 cases in 2017 transmission of this infection has not become well established in our MSM population. LGV infection is associated with high levels of concurrent STIs, in particular HIV, and high risk sexual behaviour including multiple anonymous partners.

Most patients in the European outbreak have presented with proctitis; symptoms included rectal pain, anorectal bleeding, mucoid and/or haemopurulent rectal discharge, tenesmus, diarrhoea or altered bowel habit and other symptoms of lower gastro-intestinal inflammation. Some patients reported systemic symptoms such as fever and malaise. Asymptomatic infection can occur.

Genital ulcers and inguinal symptoms are less common; nonetheless ''classical'' LGV has been reported in MSM in the European outbreak and clinicians need to be alert for these presentations. Several cases of pharyngeal LGV have also been reported.

LGV confirmatory PCR service offered by SBSTIRL

The Scottish Bacterial Sexually Transmitted Infection Reference Laboratory (SBSTIRL) offers an LGV confirmatory PCR service on:

- rectal swabs positive for chlamydia where one or more of the following applies
  - rectal symptoms+/or inguinal lymphadenopathy
  - HIV positive
  - contacts of LGV
  - LGV diagnosed at another site
- pharyngeal and genital samples positive for chlamydia where one or more of the following applies
  - symptoms suggestive of LGV at pharyngeal and / or genital sites (see '2013 European Guideline on the Management of Lymphogranuloma Venerum)
  - HIV positive MSM
  - contacts of LGV
  - LGV diagnosed at another site

For more information
https://edinburghlabmed.co.uk/Specialities/reflab/sbstirl/Pages/default

It is important clinicians are aware of the process within their service of requesting LGV testing. Processes are likely to vary across services and may include stating on the original request that the sample is to be tested for LGV if CT positive, or liaising with the local lab when a positive CT is reported and the patient merits LGV testing. Testing will contribute to epidemiological monitoring of the LGV outbreak and assist with the management of contacts.

Whenever LGV is confirmed or suspected the case should be discussed with a clinician experienced in the management of LGV. The management of LGV is beyond the scope of this guidance. Refer to BASHH 2013 UK National Guideline for the Management of Lymphogranuloma Venereum / 2013 European Guideline on the Management of Lymphogranuloma Venerum.

Management

All patients diagnosed with chlamydia should be:

- advised to avoid genital, oral or rectal sex until patient and partner have completed treatment (or wait 7 days after completion of treatment if treatment was azithromycin). If a test of cure is indicated (see 'Test of Cure' section) patients should abstain until they are in receipt of a negative result.
- encouraged to have testing for other STIs including HIV, syphilis and where indicated tested for hepatitis and offered hepatitis and HPV vaccination. If the patient is within the window periods then tests should be repeated at an appropriate interval.
- given detailed information on the natural history of chlamydia infection, as well as transmission, treatment and complications, and directed to clear accurate written or web based patient information.

  Sexual Health Scotland (Government web site)
  https://www.sexualhealthscotland.co.uk/the-clinic/stis/chlamydia

  NHS Inform (Scotland's National Health Information Service)

  https://www.nhsinform.scot/illnesses-and-conditions/sexual-and-reproductive/chlamydia

  https://www.nhsinform.scot/illnesses-and-conditions/sexual-and-reproductive/lymphogranuloma-venereum-lgv#:~:text=Lymphogranuloma%20venereum%20(LGV)%20is%20a,in%20women%20is%20very%20rare.

  The British Association of Sexual Health and HIV produce leaflets on Chlamydia and LGV available in print and screen versions
  https://www.bashhguidelines.org/media/1133/ct-pil-screen-oct-2016.pdf
  https://www.bashhguidelines.org/media/1033/lgv_pil_digital_2_2015.pdf

Structured discussions should take place with patients diagnosed with chlamydia on the basis of behavioural change theories to address factors that can reduce risk taking and improve self efficacy and motivation. In most cases this can be a brief intervention discussing condom use and re-infection. Some patients may require more in-depth risk reduction work and referral to a healthcare worker competent in motivational interviewing.

Management

See section above explaining the LGV confirmatory PCR service offered by SBSTIRL
Doxycycline and ofloxacin should not be used in pregnancy or when breast feeding.

Uncomplicated genital and pharyngeal chlamydia

1st Line
Doxycycline 100mg orally twice daily for 7 days

2nd line:
Azithromycin 1g orally as a single dose followed by 500mg daily for 2 days

3rd line:
Erythromycin 500mg orally twice daily for 14 days
or
Ofloxacin 200mg orally twice daily or 400mg orally once daily for 7 days

Asymptomatic rectal chlamydia (LGV status unknown)

Doxycycline 100mg orally twice daily for 7 days
with the need for a Test of Cure*

Or
Doxycycline 100mg orally twice daily **for 21 days**
and in general no need for Test of Cure*

Asymptomatic rectal chlamydia (LGV negative)

Doxycycline 100mg orally twice daily for 7 days
and in general no need for Test of Cure*

Asymptomatic rectal chlamydia (LGV positive) and all symptomatic rectal chlamydia

Doxycycline 100mg orally twice daily **for 21 days**

*Please refer to Test of Cure section below

Partner Notification

All patients diagnosed with chlamydia infection should see a Sexual Health Advisor (SHA) or an appropriately clinician trained in partner notification.

The look back period for all (except symptomatic males at urethral site) should be six months or to the previous partner if no partners in the last 6 months.

The look back period for symptomatic males (urethral sites) should be four weeks before the onset of symptoms, or to the previous partner if no partners in the last 4 weeks. All sexual partners within the look back period should be offered and encouraged to take up testing.

Current partners should be tested then treated epidemiologically and advised to abstain from sex for one week following commencement of treatment. For partners who test positive and where a test of cure is indicated (see 'Test of Cure' section) abstinence should continue until the test of cure is reported and negative.

Test of Cure*

Genital or pharyngeal infection: A test of cure following treatment is NOT routinely indicated. Indications for a test of cure include

- persistent symptoms after treatment
- concerns re adherence to treatment or reinfection
- pregnancy
- use of treatment other than azithromycin or doxycycline
- known LGV and treatment was not 21 days of doxycycline

Rectal Infection: A test of cure is needed unless the patient fulfils **all** of the following criteria

- free of symptoms after treatment
- no concerns re adherence to treatment or re-infecton
- not pregnant
- was treated with 21 days of doxycyline irrespective of LGV testing or treated with 7 days of doxycyline and had a negative LGV test

When indicated a test of cure should ideally be done no earlier than three weeks after completion of treatment.

Follow Up

Patients who presented with complicated infection and in patients in whom there is the intention to do a test of cure should be followed up in person.

When there are outstanding issues following the initial interview with the SHA patients should be given a follow up telephone interview. If apparent during telephone follow up that symptoms are present arrange a clinical review in person.

At all follow up interviews

- Check compliance with therapy
- Check did they avoid genital, oral or rectal sex until themselves and partner completed treatment (or waited 7 days if treatment was azithromycin)
- Ensure completion of any outstanding partner notification work

Further recommendations

Consideration should be given to re-treatment of patients who have failed to adhere to treatment instructions or where azithromycin was used and the patient vomited within 2 hours of any dose.

If symptoms have not responded to treatment or recur soon after treatment consideration should be given to treatment failure or reinfection.
In pregnancy further testing is advised at 36 weeks gestation.

Complications

In SIGN 109, national screening of asymptomatic women is not considered cost effective at reducing morbidity for complication rates under 10% and at the present time there is an absence of data to support a complication rate greater than this. PID can result in infertility, ectopic pregnancy and chronic pelvic pain. The risk of PID increases with each recurrence of *C.trachomatis* infection.

Other Complications

- Perihepatitis (Fitz-Hugh Curtis) Syndrome
- Epididymo-orchitis
- Adult conjunctivitis
- Sexually acquired reactive arthritis/Reiters Syndrome
- Transmission to neonate (neonatal conjunctivitis, pneumonia)
- Preterm birth and low birth weight

Management of Chlamydial Salpingitis

The management of salpingitis is outwith the scope of this guideline. Consideration should be given to managing females with abdominal pain in accordance with guidelines for managing Pelvic Inflammatory Disease (See BASHH 2019 Interim Update to the 2018 PID Guideline).

The Management of Chlamydial Epididymo-orchitis

The management of epididymo-orchitis is outwith the scope of this guideline. See West of Scotland Guideline for Epididymo-orchitis.

Chlamydial Conjunctivitis in Adults

This is an uncommon presentation to GU settings. Patients may be referred from ophthalmology or present with a chronic follicular conjunctivitis, usually unilateral, with a sub-acute onset.
Symptoms: foreign-body sensation, tearing, mucoid discharge, redness, photophobia, swelling of lids.
Incubation usually 1 - 3 weeks.

Management: Involve ophthalmology team (if not already involved).

1st line
Doxycycline 100mg orally twice daily for 7 days

2nd line:
Azithromycin 1g orally as a single dose followed by 500mg daily for 2 days

It is essential that all clients with chlamydial conjunctivitis and their sexual partners are assessed for concomitant chlamydial genital tract infection. Refer to a Health Advisor team as per genital chlamydia guidelines.

References

British Association of Sexual Heath and HIV Clinical Effectiveness Unit BASHH 2015 UK National Guideline for the Management of Infection with *Chlamydia trachomatis* (2015).
https://www.bashhguidelines.org/media/1192/ct-2015.pdf
[accessed 4th August 2022]

Update on the treatment of *Chlamydia trachomatis* (CT) infection BASHH Clinical Effectivesness Group September 2018
https://www.bashhguidelines.org/media/1191/update-on-the-treatment-of-chlamydia-trachomatis-infection-final-16-9-18.pdf
[accessed 4th August 2022]

British Association of Sexual heath and HIV Clinical Effectiveness Unit BASHH UK National Guideline for the Management of Lymphogranuloma Venerum (2013)
https://www.bashh.org/documents/2013 LGV guideline.pdf
[accessed 4th August 2022]

2019 European Guideline on the Management of Lymphogranuloma Venereum
https://onlinelibrary.wiley.com/doi/full/10.1111/jdv.15729
[accessed 4th August 2022]

UK National Guidelines for the Management of Pelvic Inflammatory Disease 2018
https://www.bashhguidelines.org/media/1170/pid-2018.pdf
[accessed 4th August 2022]

United Kingdom National Guideline for the Management of Pelvic Inflammatory Disease (2019 Interim Update)
https://www.bashhguidelines.org/media/1217/pid-update-2019.pdf
[accessed 4th August 2022]

Scottish Bacterial Sexually Transmitted Infections Reference Laboratory (SBSTIRL)
Samples and Request Forms | Edinburgh and Lothians Laboratory Medicine (edinburghlabmed.co.uk)
[accessed 4th August 2022]

Dr Kate Templeton, Head of Service, Regional Virus Laboratory Specialist Virology Centre, Edinburgh [pers comm. 4th August 2022]