

REVIEW

Sexually transmitted proctitis

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Sexually transmitted infections such as chlamydia, gonorrhoea, herpes simplex virus and syphilis commonly present with rectal symptoms. Recent outbreaks of lymphogranuloma venereum among homosexual men throughout Europe highlight the need to consider sexually transmitted infections in the differential diagnosis of proctitis. This article examines the causative organisms, clinical features, diagnosis and treatment of sexually transmitted proctitis.

among both MSM and heterosexuals. A study of sexual practices in heterosexual Americans showed that 10% of women have anal sex on a regular basis.⁵ Studies have indicated an increase in unprotected anal sex among homosexual men. A London-based study indicated a rise in the percentage of MSM reporting unprotected anal intercourse with a casual partner from 6.7% to 16.1% between 1998 and 2003.² It should be noted that oro-anal sex is implicated in the spread of sexually transmissible infections such as herpes simplex virus (HSV), and in the transmission of enteric bacteria and protozoa among MSM.

Gastrointestinal manifestations of sexually transmitted infections (STI) are common, yet not always easily recognised. Proctitis, or inflammation of the rectum, has several infectious and non-infectious causes, the infectious pathogens typically being sexually acquired. Chlamydia, gonorrhoea, herpes simplex virus and syphilis are among the STI that can cause anorectal disease, and more recently outbreaks of less common infections such as lymphogranuloma venereum (LGV) have occurred in western Europe. The symptomatology of many of these infections can mimic other conditions and may pose diagnostic difficulties. It is therefore imperative that healthcare professionals dealing with patients with gastrointestinal symptoms are aware of the manifestations of different infections that may present in this way.

The emergence of the HIV epidemic in the 1980s, and the health promotion campaigns surrounding it, saw a reduction in unsafe sexual practices among heterosexuals and men who have sex with men (MSM), leading to subsequent declines in the incidence of STI.¹ In recent years, there have been numerous reports of increasing risk-taking sexual behaviour, particularly of unprotected anal intercourse in MSM.² This has been mirrored by a resurgence of the rates of STI in the UK.^{1,3} It has been well established that unprotected anal intercourse is the highest risk activity associated with sexual transmission of HIV and that the presence of a concomitant STI greatly increases this risk.⁴ Therefore, the prompt recognition and treatment of rectal STI has an important role in the prevention of HIV transmission.

SEXUAL HISTORY

People presenting with gastrointestinal symptoms may need to have a sexual history taken to establish whether anorectal intercourse has taken place, and if so, whether barrier protection was used. Anal sex is a prevalent sexual practice

CLINICAL PRESENTATION

Proctitis is defined as inflammation of the rectal mucosa. Proctocolitis describes inflammation extending >15 cm into the sigmoid colon.

Symptoms may vary depending on the specific infection or pathological process, but can be indistinguishable from those of inflammatory bowel diseases. The most common symptom of proctitis is a frequent or continuous urge to have a bowel movement. Other symptoms include anorectal pain or discomfort, anal discharge, which may be purulent, mucoid or bloodstained, tenesmus, urgency of defecation, rectal bleeding and constipation. Proctocolitis presents with the symptoms of proctitis and diarrhoea, abdominal pain, and bloating. Systemic symptoms such as fever may also occur.

Different pathogens typically infect different sites. HSV and syphilis infect the stratified squamous epithelium and are commonly seen in the perianal area and at the anal verge. Infections occurring between the anal verge and the anorectal (dentate) line tend to be extremely painful owing to the abundance of sensory nerve endings in this area. Chlamydia and gonorrhoea infect columnar epithelium, as occurs in the rectum. The rectum itself has few sensory nerve endings, and infections sparing the anus may be painless. A recent study among MSM indicated that up to 85% of rectal infections with chlamydia and gonorrhoea are asymptomatic.⁶

INDIVIDUAL PATHOGENS

A retrospective review of clinical proctitis in MSM showed the commonest causative infectious agent isolated to be gonorrhoea, found in 30% of patients presenting with rectal symptoms. This was followed by chlamydia in 19%, herpes in 16% and syphilis in 2%.⁷

Abbreviations: HSV, herpes simplex virus; LGV, lymphogranuloma venereum; MSM, men who have sex with men; PCR, polymerase chain reaction; STI, sexually transmitted infections

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Enteric pathogens causing proctocolitis, such as *Campylobacter*, *Shigella*, *Salmonella*, *Giardia* and *Entamoeba histolytica*, are not classically considered to be sexually transmitted infections, yet may be transmitted by oro-anal sex, and sexual transmission is well described among MSM.^{8,9}

Neisseria gonorrhoea

Rectal gonorrhoea is common and asymptomatic in a high proportion of people. Symptoms may arise 5–10 days after exposure and include pruritus ani, constipation, mucopurulent anal discharge with or without bleeding, and sometimes pain and tenesmus. The rectal mucosa may appear normal, or there may be visible pus with erythematous mucosa and contact bleeding. Untreated infection can lead to abscess formation.¹⁰

Chlamydia trachomatis (non-lymphogranuloma venereum strains)

Chlamydia trachomatis (serovars D–K) generally causes a mild proctitis. Two thirds of infections are asymptomatic. Symptoms are usually mild, with the commonest symptoms being pruritus ani, a mucoid discharge and peri-anal pain.¹¹ Proctoscopy may show normal mucosa, mild erythema or oedema, or contact bleeding.

Lymphogranuloma venereum

LGV is a systemic disease caused by *Chlamydia trachomatis* serovars L1, L2 and L3, which tend to be more invasive than the D–K serovars. LGV is endemic in parts of Africa, South and Central America, the Caribbean and South East Asia, and has previously been rarely reported in developed countries. There has been a recent resurgence of LGV among MSM in western Europe, mainly in HIV-infected patients undertaking high-risk sexual activities.^{12,13} To the end of December 2005, 292 cases of rectal LGV were reported in the UK among MSM.¹⁴ All current European outbreaks are of the L2 genotype.

The clinical course of LGV can be divided into three stages. The primary lesion occurs at the site of inoculation 3–30 days after sexual contact in the form of a painless pustule, shallow ulcer or erosion and is often unnoticed by the infected individual. A secondary stage can occur 3–6 months after exposure and manifests either as an inguinal syndrome or as

an anogenitoretal syndrome. Both syndromes may be associated with systemic features, including fever, arthralgia, myalgia, malaise and anorexia. In heterosexuals, the most common manifestation is tender inguinal or femoral lymphadenopathy that may go on to suppurate and ulcerate.

In homosexual men, anorectal symptoms of proctitis and proctocolitis occur, and excruciating pain helps to distinguish it from many other forms of proctitis. Symptoms include anal discharge, which may be mucous, purulent or bloody. Pain, tenesmus and constipation are common. At this stage, the clinical and sigmoidoscopic changes may resemble those of Crohn's disease.¹⁵ There are case reports of LGV causing severe rectal pathology in heterosexual women.¹⁶

Progression to the tertiary stage may occur if the infection remains untreated, causing a chronic inflammatory response and tissue destruction. This may be associated with stricture and fistula formation, again mimicking Crohn's disease.¹⁶ In the most severe cases lymph node destruction leads to lymphoedema and genital elephantitis, with persistent suppuration and pyoderma.

There has been some debate as to whether the new outbreaks of LGV are due to increased awareness among doctors about rectal symptomatology, in addition to advances in laboratory technology in the ability to detect specific L serovars of Chlamydia.¹⁷ LGV proctitis appears to be common among MSM engaging in high-risk sex, and is easily misdiagnosed and possibly mismanaged. Current rates of reported LGV in Europe and the USA are probably underestimates of the true prevalence.¹⁷

Herpes simplex virus

HSV infection may be acquired through both anal or oro-anal intercourse. Most infections are from HSV type 2, although HSV 1 is also common, accounting for 13% of rectal HSV infections and probably reflecting oro-anal transmission.¹⁸ HSV typically presents with small vesicular lesions, which go on to ulcerate and then resolve over a few days. Infection predominantly affects the perianal skin and anal canal, but may extend to the rectum. Although lesions are usually multiple, a solitary ulcer may be the only sign and may be misdiagnosed as an anal fissure. Primary syphilis should also be excluded and may coexist. Subclinical asymptomatic shedding of HSV from rectal lesions is common¹⁹ and has implications for onward transmission of the virus.

Table 1 Common organisms causing sexually transmitted proctitis (it should be noted that more than one infection may be present)

Organism	Common symptoms and signs	Investigations	Recommended first line treatment
Gonorrhoea	Commonly asymptomatic. Pruritus ani, constipation, mucopurulent anal discharge with or without bleeding, rectal pain and tenesmus	Culture (gold standard) NAAT (not validated, always confirm with culture)	Cefixime 400 mg stat or ceftriaxone 250 IM or spectinomycin 2 g IM
Chlamydia (non-LGV serovars)	Commonly asymptomatic. Pruritus ani, mucoid discharge, perianal pain	NAAT (not validated)	Azithromycin 1 g stat or doxycycline 100 mg bd for 1 week
LGV	Systemic symptoms (Fever and malaise) Purulent, often bloodstained anal discharge. Severe pain, tenesmus, constipation. Symptoms and signs may be mistaken for those of inflammatory bowel disease	NAAT as for chlamydia—refer to reference lab if positive for typing	Doxycycline 100 mg bd for 3 weeks
Syphilis	Primary syphilis—ano-rectal chancres commonly asymptomatic, may be associated with pain or discomfort, itching, bleeding, discharge and tenesmus. Secondary syphilis—snail track ulcers and mucous patches. Perianal condylomata lata. Generalised rash, fever and lymphadenopathy may be present	Dark ground microscopy if ulcer present serological tests: RPR/VDRL >70% sensitive in primary syphilis, 100% sensitive secondary syphilis EIA/TPPA/TPHA. >70% sensitive in primary syphilis, 100% in secondary syphilis. Stay positive after treatment and in latent infection	Procaine penicillin IM 750 mg daily for 10 days or benzathine penicillin 2.4 g IM stat or doxycycline 100 mg bd for 14 days Advise should be sought if the patient is HIV infected as treatment regimes may vary
Herpes simplex virus	Vesicular lesions, severe pain, difficulty in passing a bowel motion, tenesmus, discharge, viraemic symptoms such as fever and lymphadenopathy	Viral culture or PCR	Aciclovir 200 mg 5 × daily for 5 days

bd, twice daily; EIA, enzyme immunoassay; HSV, Herpes simplex virus; IM, intramuscular; LGV, lymphogranuloma venereum; NAAT, nucleic acid amplification testing; PCR, polymerase chain reaction; RPR, rapid plasma reagin test; STI, sexually transmitted infections; TPPA, Treponema pallidum particle agglutination; TPHA, Treponema pallidum haemagglutination assay; VDRL, Venereal Disease Research Laboratories.

Clinical symptoms include severe pain, difficulty in passing a bowel motion, tenesmus, discharge and viraemic symptoms, such as fever and inguinal lymphadenopathy. Primary infection may be associated with urinary retention, sacral paraesthesia or dysesthesia, and short-term impotence.²⁰

Treponema pallidum

Notifications of infectious syphilis have risen sharply in the last few years in western cities, particularly among MSM but also among heterosexuals.²¹ Primary syphilis classically presents 9–90 days after exposure as a painless chancre at the site of inoculation. Anorectal chancres may go unnoticed by the patient, or may be associated with pain or discomfort, itching, bleeding, discharge and tenesmus.²² Misdiagnosis of anal fissure is not uncommon, and syphilitic lesions may coexist with HSV. Granulomatous inflammation can lead to rectal masses in both primary and secondary syphilis.²³ Other features of secondary syphilis include a widespread maculopapular rash and lesions of the mucous membranes—snail track ulcers and mucous patches—which may affect the rectum. Condylomata lata occurring in the perianal region appear as moist wart-like lesions and may be confused for human papilloma virus infection. The lesions of primary and secondary syphilis contain high numbers of treponemes and are extremely infectious.

INVESTIGATIONS

Patients presenting with rectal symptoms should have a physical examination, including abdominal examination, anogenital inspection and examination for inguinal lymphadenopathy. A stool sample should be sent for microscopy and culture in patients with altered bowel habits or abdominal symptoms.

Proctoscopy can be used as a bedside tool to examine the anorectal mucosa and to inspect for any ulceration, inflammation, discharge or bleeding. Rectal swabs for gonorrhoea and chlamydia can be taken blindly or at the time of proctoscopy. Swabs for gonorrhoea should be sent for culture on a charcoal swab, or a blood agar plate if available. Polymerase chain reaction (PCR) testing may also be available and is highly sensitive, although culture remains the gold standard. Gram staining and glass slide microscopy may provide an immediate diagnosis of gonorrhoea, but the sensitivity is poor and may be user dependent.²⁴ Chlamydia PCR is now the standard diagnostic test for rectal chlamydia. The use of nucleic acid amplification testing assays for gonorrhoea and chlamydia are not validated for rectal specimens; however, several studies indicate a high sensitivity of PCR and ligase chain reaction for diagnosing extragenital infections, and, where available, they prove to be useful diagnostic tools.^{25–27} Specific LGV-associated serovars of chlamydia can be detected in those with positive PCR by genotyping; however, as this can take some time, the diagnosis is usually based on clinical findings in association with a positive rectal chlamydia result.¹³

Culture or PCR for HSV can also be taken by rectal swab, particularly if any areas of painful ulceration are noted.

The causative organism of syphilis, *Treponema pallidum*, cannot be cultured. Dark ground microscopy of exudates from rectal ulcers may be inaccurate owing to the contamination from commensal spirochaetes found in the normal flora of the rectal mucosa. PCR tests have been developed and are useful for diagnosing syphilitic ulcers; however, these are not yet in widespread clinical use in the UK.²⁸ Demonstration of antibodies in the serum is the mainstay of syphilis diagnosis.²⁹ Serological tests are of two main types: the non-specific cardiolipin antigen tests (Venereal Disease Research Laboratory slide test and rapid plasma reagin test)—which can be used to diagnose primary and secondary

syphilis and also to monitor treatment response, and specific treponemal antigen tests (enzyme immunoassay, *T pallidum* haemagglutination assay, *T pallidum* particle agglutination assay, fluorescent treponemal antibody absorption test), which will stay positive even after treatment, but act as a marker of latent syphilis in untreated adults. Specific anti-*T pallidum* immunoglobulin (Ig) M may become detectable as early as the second week of infection; IgG antibodies become positive after about 4 weeks. If there is any index of suspicion, syphilis serology should be repeated 3 months later.

TREATMENT

Patients with acute proctitis and a history of anal intercourse can be treated empirically for chlamydia and gonorrhoea while awaiting microbiological results. Azithromycin (1 g as a single dose) or doxycycline (100 mg twice daily for a week) is an effective treatment for chlamydia. In view of the current outbreak of LGV, a longer course of antibiotics should be considered in all patients with risk factors for the infection. HIV-positive men with proctitis should be treated for LGV in the first instance. The preferred treatment is doxycycline 100 mg twice daily for 3 weeks; erythromycin may be used as an alternative. Data available on the efficacy of azithromycin for the treatment of LGV are limited.³⁰ Homosexual men with symptomatic rectal chlamydia should be given LGV treatment until the serovar is determined.¹³ The treatment of gonorrhoea depends on local guidelines, based on surveillance of resistance patterns of the organism. A minimum criterion is that at least 95% of gonorrhoea prevalent in a population should be susceptible to the antibiotic used. At the time of writing, current recommendations include cefixime, a third-generation oral cephalosporin (400 mg as a single dose), ceftriaxone (250 mg intramuscular) or spectinomycin (2 g intramuscular) for patients allergic to penicillin. Treatment of primary HSV proctitis with oral aciclovir is effective,³¹ and this should be carried out if herpes is suspected. Valaciclovir or famciclovir can be used, which have easier dosing schedules. Patients with recurrent symptoms of HSV may benefit from long-term suppressive treatment. Early syphilis is treated with intramuscular procaine penicillin (10 days) or benzathine penicillin (2.4 g as a single dose). Doxycycline can be used in patients allergic to penicillin (100 mg twice daily for 2 weeks). Longer courses of antibiotics are used for latent syphilis.²⁹

The contacts of patients with a sexually transmitted infection should be referred to a genitourinary medicine clinic for testing and treatment.

SUMMARY

Sexually transmitted proctitis is common and should be considered in MSM with rectal symptoms. Although less prevalent in women, it should be considered if there is a history of anal sex. The clinical presentation of patients presenting with sexually transmitted proctitis may not differ from those with ulcerative or Crohn's proctitis, and patients may undergo unnecessary investigations if appropriate questions on their sexual practices are not asked. MSM presenting with proctitis need to be tested for the common STIs discussed in this article: gonorrhoea, chlamydia, including LGV serovars, HSV and syphilis. Treatment can be started empirically while awaiting the microbiological results, thus reducing inflammation, infection duration and hence infectivity of the patient. The appropriate treatment of sexually transmitted proctitis has important implications in the control of HIV by reducing both HIV transmission and susceptibility.

Useful website

National guidelines detailing current treatment recommendations for the management of sexually transmitted infections are available online from the British Association for Sexual Health and HIV (BASHH) at www.bashh.org

SELF-ASSESSMENT QUESTIONS (TRUE (T)/FALSE (F); ANSWERS AFTER THE REFERENCES)

1. Patients with acute proctitis and a history of receptive anal intercourse should wait for a microbiological diagnosis before being treated.
2. Herpes simplex virus (HSV) type 1 is the causative organism of most cases of HSV proctitis.
3. Proctitis caused by *Neisseria gonorrhoea* should be treated with a cephalosporin antibiotic.
4. Rectal infection by *Chlamydia trachomatis* serovars D–K characteristically causes symptoms of tenesmus, anal discharge and rectal pain.
5. Shigella can be transmitted by oroanal contact.

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ANSWERS

1. False; 2. False; 3. True; 4. False; 5. True