Sexually Transmitted Proctitides

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ABSTRACT

Patients with sexually transmitted proctitides are increasingly presenting to doctors' offices. This may be secondary to increasing numbers of individuals participating in anal receptive intercourse and a rise in the incidence of sexually transmitted diseases. Although the sexually transmitted proctitides represent a small proportion of the overall number of cases of new proctitis, in certain populations the incidence of these diseases as causative agents is quite high, especially among men who have sex with men. Common causative agents include *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, *Treponema pallidum*, and herpes simplex. Diagnosis may often be made on clinical grounds alone, and treatment requires antibiotics or antivirals. The clinician must remember to keep these diseases in mind while formulating a differential for the cause of proctitis.

KEYWORDS: Sexually transmitted proctitis, proctitides, anal receptive intercourse

Objectives: Upon completion of this article, the reader should be able to identify signs, symptoms, and findings of sexually transmitted proctitides and outline current treatment regimens.

Proctitis is defined as inflammation located in but not necessarily confined to the rectum. The rectum itself is generally thought of as the distal 15 cm of the large intestine. Various disease processes may cause inflammation of the rectal mucosa. Some common causes of proctitis include inflammatory bowel disease-related proctitis, radiation proctitis, and "diversion" proctitis. Non-sexually transmitted flora such as *Escherichia coli*, *Shigella*, *Campylobacter*, and *Clostridium difficile* can also occasionally be the causative agent. Less commonly, sexually transmitted organisms are implicated as the etiology of proctitis.

A careful history and physical examination can alert the physician to the possibility that a patient's complaint may be due to sexually transmitted disease. The spectrum of disease presentation may range from subtle, nonspecific gastrointestinal complaints to severe life-threatening systemic manifestations. The symptoms

and their severity should be discussed. Pain, diarrhea, tenesmus, blood in the stools, anal drainage, and odor are not uncommon with proctitis related to sexually transmitted disease. It is important to inquire into the patient's personal history including sexual practices. Anal receptive intercourse is a risk factor that is important to elicit. The patient's prior history of sexually transmitted disease and that of his or her partners is likewise important. The number of recent partners is also relevant information in regard to being a known risk factor.¹ The physical examination should focus on the anorectal examination. The appearance of the perianal skin should be initially noted in regard to lesions. Anoscopy and proctoscopy are necessary to evaluate the anorectal mucosa. Ulcers, plaques, and discoloration are visual findings that may be present. Swabs for cultures can be taken and biopsies can be obtained. If the patient is too uncomfortable during this portion of

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the examination, examination under anesthesia should be performed. With a complete history and physical examination, a diagnosis can often be made.

To describe the most common sexually transmitted proctitides, the four most common sexually transmitted organisms are presented here. Emphasis is placed on diagnosis and treatment.

NEISSERIA GONORRHOEAE

Recognized since the late 1800s, *Neisseria gonorrhoeae* proctitis represents one of the more common bacterial proctitides. Most commonly seen in females and homosexual men, this bacterial infection, like the other sexually transmitted proctitides, is acquired through anal receptive intercourse with an infected individual. Clinical manifestations often begin shortly after the 5- to 7-day incubation period. Following the acquired immunodeficiency syndrome (AIDS) epidemic in the 1980s, the incidence of gonococcal proctitis declined. This trend has changed recently, and rates are currently rising. It has been postulated that the reemergence of gonococcal proctitis can be attributed to a change in attitude about the necessity for maintaining safe sexual practices among homosexual males since the emergence of more effective treatment of human immunodeficiency virus (HIV).²

N. gonorrhoeae is a gram-negative diplococcus that has adapted to specifically target the mucous membranes through several mechanisms. Gonorrheal adaptations include specialized adherence proteins, the production of an immunoglobulin A protease, and the blocking of antibody-mediated killing with sialylated lipo-oligosaccharide.³ Additionally, with the ubiquity of penicillinase-producing strains of *N. gonorrhoeae*, the organism has become more resilient. This has led to treatment of this infection changing over the past several decades.

Clinical manifestations of *N. gonorrhoeae* proctitis may include severe anal pruritus, tenesmus, and/or bloody or mucopurulent anal discharge. Diagnosis on clinical grounds can often be made based on the presence of a typically thick and mucopurulent discharge with concurrent visualization of the stigmata of proctitis on anoscopy or proctoscopy.

Definitive diagnosis is based on Gram stain of discharge and culture of the organism. Classical Gram stain shows intracellular gram-negative diplococci. Modified Thayer-Martin (MTM) agar is used to grow the organism in culture (Fig. 1). It is helpful to aid in the growth of this fickle organism if water is used as the only lubricant on anoscopy as many of the commercially available lubricants contain bacteriostatic agents.⁴ Non-culture diagnostic testing using polymerase chain reaction (PCR) and ligase chain reaction (LCR) can aid in the diagnosis of *N. gonorrhoeae* but provides no information regarding antibiotic susceptibility.

Empirical treatment is often begun on clinical grounds until definitive culture results are reported. The Centers for Disease Control and Prevention (CDC) 2002 guidelines recommended first-line treatment is cefixime, 400 mg orally once, or ceftriaxone, 125 mg intramuscularly. For penicillin-allergic patients, a single oral dose of either ciprofloxacin 500 mg, ofloxacin 400 mg, or levofloxacin should be given.⁵ However, resistance to quinolones has been reported, especially in Asia and the Pacific.⁵ Additionally, concomitant treatment of *Chlamydia trachomatis* should be given as the two organisms have a high incidence of coinfection, especially in high-risk populations.

Identification and treatment of the patient's sexual contacts should be undertaken as well as treatment of the patient. Infected individuals should be encouraged to abstain from sexual activity until treatment is completed

Figure 1 Thayer-Martin agar culture showing *N. gonorrhoeae* (Courtesy of Department of Pathology, Western Pennsylvania Hospital, Pittsburgh, PA.)

and symptoms resolve. Any patient who has undergone treatment and has persistent symptoms should undergo reculture and antibiotic susceptibility testing as well as treatment for *C. trachomatis* if not already done. Failure of treatment or nontreatment can lead to disseminated *N. gonorrhoeae* infection. The most common manifestation of disseminated gonorrhea is gonococcal arthritis, but others include bacteremia, dermatitis, and rarely endocarditis and meningitis. These manifestations of the disease can be life threatening, and prevention in the first place is the ideal approach.

CHLAMYDIA TRACHOMATIS

C. trachomatis is the most common sexually transmitted disease in the United States, with an incidence of 467 per 100,000 reported by the CDC for 2003.⁶ *C. trachomatis* proctitis is caused by infection after receptive anal intercourse. Symptoms usually begin a week to 10 days after inoculation. Up to 50% of infections may be asymptomatic.⁷ However, many infected individuals present with complaints of anal pain, tenesmus, and/or fever. In addition, there may be a bloody or mucoid discharge associated with anorectal chlamydial infection. Direct visualization of the rectal mucosa may reveal this discharge along with the other mucosal manifestations of proctitis: erythema, friability, and sometimes ulcerations. The more serious complaints are more common in patients with infection with lymphogranuloma venereum (LGV) strains. LGV is caused by *C. trachomatis* serotypes L1, L2, and L3. Unlike other serotypes (A to K), those that cause LGV are invasive and preferentially target lymph tissue.⁴ LGV serovars have been noted to produce a more aggressive disease state with perianal abscesses, fistulas, and structuring that can be easily mistaken for Crohn's disease. Often the only way to distinguish LGV proctitis from Crohn's proctitis is by the inguinal lymphadenopathy that can sometimes accompany the infection (Fig. 2). LGV strains and B

complex have been reported to be more likely to result in symptomatic infection and proctitis.⁸

Diagnosis of chlamydia proctitis relies on non-media culture methods as the organism requires cellular cultures to grow. LCR and PCR technologies are considered to be the most accurate tool for diagnosis; sensitivities and specificities are reported to be up to 95% for urethritis but may be lower for anorectal specimens.⁹ For culture performed on rectal swab specimens and for direct fluorescent antibody test performed on rectal specimens, a *C. trachomatis* major outer membrane protein (MOMP)-specific stain should be used. Rectal biopsies can be taken during sigmoidoscopy. Biopsies may show granulomas in *C. trachomatis* infections, which may be confused with Crohn's disease as the two are indistinguishable.¹⁰

Recommended treatment is a one-time dose of 1 g of oral azithromycin or doxycycline 100 mg orally twice daily for a week. Alternative treatments include a week of levofloxacin, ofloxacin, or erythromycin. For patients with LGV, the recommended treatment course is doxycycline for 21 days.⁵ Treatment of sexual partners and abstinence during treatment are recommended, as with *N. gonorrhoeae*.

SYPHILIS

Caused by the spirochete *Treponema pallidum*, syphilitic proctitis is acquired during anal receptive intercourse. As with genital syphilis, the manifestation of painless ulcers (chancres) usually appears 2 to 6 weeks after exposure. Although the genital lesions are classically described as painless, anal chancres may clinically be mistaken for anal fissure as they can sometimes cause severe pain. These lesions are most often found at the anal verge but may also be seen above the dentate line. This location is most commonly found in HIV+ individuals.⁴ Proctitis may be seen with or without the presence of chancres.

Figure 2 Computed tomography scan of patient with proctitis and both lymphogranuloma venereum and syphilis serology revealing (A) inguinal lymphadenopathy and (B) proctitis with perirectal adenopathy. (Courtesy of Charles O. Finne III, M.D., Minneapolis, MN.)

Clinical manifestations of primary syphilitic infection may include tenesmus and a mucoid discharge.

If left untreated, anorectal syphilis progresses to secondary syphilis. Characterized by a diffuse red maculopapular rash classically seen on the palms of the hands and feet, secondary syphilis may be accompanied by systemic manifestations. These can include fever, arthralgias, malaise, weight loss, sore throat, and headache. Genital or anorectal condyloma latum appears with secondary syphilis and can be mistaken for human papillomavirus. Condyloma latum is a whitish warty lesion and most often appears near the primary chancre. Scrapings of these lesions reveal numerous spirochetes.

Diagnosis of syphilis is made by visualizing the spirochetes on darkfield examination of scrapings from the chancres. Serologic testing is divided into either treponemal or nontreponemal. Infection with syphilis leads to production of nonspecific antibodies that react to cardiolipin. This reaction is the basis of the nontreponemal screening tests. Venereal Disease Research Laboratory (VDRL) and rapid plasma reagin (RPR) tests are the most commonly used nontreponemal serologic screening tests. False positives can occur with pregnancy, autoimmune disorders, or other infections.¹¹ Treponemal testing uses the fluorescent treponemal antibody absorption test (FTA-ABS). This test remains positive for life after contraction of syphilis. It is considered the confirmatory test for syphilis.

Treatment of syphilis consists of injection of a single intramuscular dose of 2.4 million units of penicillin G benzathine. Penicillin-allergic patients can be treated with 2 weeks of oral doxycycline, 100 mg twice daily.⁵ Similar recommendations regarding treatment of sexual contacts as well as abstinence from unprotected sexual encounters should be followed. Follow-up testing with VDRL or RPR should be done at 3-month intervals for 1 year to demonstrate efficacy of treatment.

HERPES SIMPLEX VIRUS

The herpes simplex virus (HSV) is a DNA virus that is known to infect only humans. HSV1 is most commonly associated with oral, labial, or ocular lesions. HSV2 is responsible for anogenital infections. Seropositivity for HSV1 has been reported to be nearly 85% worldwide.¹² It is estimated that ~20% of Americans are seropositive for HSV2. Older age, greater lifetime number of sexual partners, Mexican-American heritage, less education, poverty, and cocaine use were associated with increased seroprevalence.¹³ Asymptomatic infection is quite common.

As with the other sexually transmitted proctitides, HSV2 is transmitted by anal receptive intercourse. Symptoms usually begin 1 to 3 weeks after exposure. Anorectal pain, constipation, tenesmus, anal pruritus,

Figure 3 Photograph of anal margin in patient with perianal herpes. Notice the typical “dewdrops on rose petals” appearance. (Courtesy of Charles O. Finne III, M.D., Minneapolis, MN.)

difficulty in urination, sacral paresthesias, posterior thigh pain, fever, and inguinal adenopathy have been reported as symptoms in HSV proctitis.¹⁴ Anal examination is critical as the distinctive appearance of HSV often leads to a quick diagnosis (Fig. 3).

The natural course of HSV infection after resolution of the primary manifestations is one of latency with reactivation. The virus may remain dormant in neural cells and then become reactivated through mechanisms that are not well understood. Recurrent HSV typically follows a milder course than the initial infection without many of the constitutional symptoms experienced with the initial infection.

Diagnosis has classically been made by staining scrapings of ulcerations with Giemsa stain. This Tzanck preparation may reveal the characteristic giant cells or intranuclear inclusion bodies (Fig. 4). The “gold standard” for diagnosis of HSV is viral culture. Six commercially available HSV type-specific antibody tests are approved by the Food and Drug Administration for use in adults.^{15,16} On anoscopy, mucosal friability or ulcerations, mucopurulent exudate, and external or perianal vesicles may be seen. Biopsies may show the characteristic intranuclear inclusions and multinucleated cells.

Figure 4 The multinucleated giant cell of herpes (Courtesy of Department of Surgery, Western Pennsylvania Hospital, Pittsburgh, PA.)

Treatment of HSV proctitis is mainly targeted at relief of symptoms. Oral analgesics as well as sitz baths can help to alleviate much of the discomfort associated with HSV infection. Oral antivirals including acyclovir, valacyclovir, and famciclovir can shorten the duration of symptoms as well as the period of viral shedding. They can also be used as daily suppressive therapy; however, these drugs neither eradicate latent virus nor affect the risk, frequency, or severity of recurrences after they are stopped. Most guidelines regarding HSV antiviral therapy have been evaluated for genital herpes and not HSV proctitis. CDC guidelines for initial HSV infection are as follows: acyclovir 400 mg orally three times daily for 5 days, 200 mg orally five times daily for 5 days, or 800 mg orally twice a day for 5 days; or famciclovir 125 mg orally twice daily for 5 days; or valacyclovir 500 mg orally for 3 to 5 days or 1 g orally daily for 5 days.⁵

For patients with more than five recurrences per year, clinicians should consider recommending suppressive therapy. Although this does not eliminate latent viral infection, it has been shown to reduce symptomatic outbreaks by 70% to 80%. CDC recommendations for suppressive therapy are acyclovir 400 mg orally twice a day, famciclovir 250 mg orally twice a day, or valacyclovir 500 mg orally daily or 1.0 g orally daily.⁵

Treatment of partners who are symptomatic for HSV infection follows the guidelines previously outlined. Specific counseling for HSV should cover the topics of recurrent outbreaks, asymptomatic shedding, and risk for other sexually transmitted diseases if safe sex practices are not followed.

DISCUSSION

Sexually transmitted proctitides can be an uncomfortable and embarrassing affliction. Table 1 summarizes the proctitides described in the body of this review. Recognizing signs and symptoms can alert clinicians to the possibility of these disease processes. A good proctologic

Table 1 Sexually Transmitted Proctitides: Cause, Diagnosis, and Treatment

Cause	Diagnosis	Treatment (First Line)
<i>N. gonorrhoeae</i>	Culture, Thayer-Martin	Cefixime/ceftriaxone
<i>C. trachomatis</i>	LCR/PCR	Azithromycin/ doxycycline
<i>T. pallidum</i>	Darkfield examination	Penicillin G
Herpes simplex	Tzanck preparation	Symptomatic (+ / – acyclovir)

LCR, ligase chain reaction; PCR, polymerase chain reaction.

examination is crucial in the diagnosis of these diseases. New technology has emerged that allows clinicians to diagnose sexually transmitted proctitides more rapidly and accurately and rule out other causes of proctitis. It is often a good idea for the clinician to communicate with the personnel who are going to analyze the specimens or perform the laboratory tests because these diagnoses are not common and the proper cultures and equipment are often necessary to make a firm diagnosis. Once the condition is identified, prompt and effective therapy can alleviate the discomfort and avoid potentially serious complications associated with these diseases. In addition, detection and treatment of others possibly exposed can help slow the spread of these diseases. Educating the high-risk population of patients about safer sex practices before or after these infections are contracted is a key element that the responsible clinician can perform as part of routine health maintenance.

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