

Purulent Proctitis Caused by *Prevotella bivia* in a Homosexual Male

Maen Masadeh, MD, Sarah Hossain, MD, Jeffrey Dunkelberg, MD, PHD,
and Henning Gerke, MD

Division of Gastroenterology and Hepatology, University of Iowa Hospitals and Clinics, Iowa City, Iowa

ABSTRACT

A 32-year-old homosexual male presented with suprapubic pain. Computed tomography showed rectal wall thickening. Flexible sigmoidoscopy showed small pockets of pus that were opened with mucosal biopsies, and additional pus was diffusely expressed from the rectal wall by applying blunt pressure with the biopsy forceps. Cultures from the pus grew *Prevotella bivia*. Symptoms resolved after treatment with doxycycline and metronidazole. Proctitis due to *P. bivia* was not previously reported.

INTRODUCTION

Infectious proctitis is not uncommon in men who have anal intercourse with men. Common symptoms include diarrhea, tenesmus, and dull pelvic pain.¹ Typical pathogens include *Neisseria gonorrhoea*, *Chlamydia trachomatis*, *Treponema pallidum*, and herpes simplex. Purulent exudate raises suspicion for gonorrheal proctitis, and empiric antibiotics that cover *N. gonorrhoea* are recommended.² Other pathogens should be suspected if clinical response is not achieved with adequate antibiotic coverage for the common pathogens.

CASE REPORT

A 32-year-old homosexual male, practicing anal intercourse, presented to the emergency department for dull suprapubic pain. He was treated with laxatives for constipation with no relief. He subsequently developed fevers and chills and had a small amount of mucinous discharge from the rectum. Rectal examination was tender, revealed no anal fissures or external hemorrhoids, and no stool was detected in the rectal vault. Computed tomography showed diffuse rectal wall thickening. Serologies for chlamydia, syphilis, and human immunodeficiency virus were negative. *N. gonorrhoea* polymerase chain reaction from a rectal swab was negative. His symptoms worsened despite empiric treatment with ciprofloxacin and metronidazole.

Flexible sigmoidoscopy showed edematous and erythematous mucosa. Small pockets of pus were opened with mucosal biopsies, and additional pus was diffusely expressed from the rectal wall by applying blunt pressure with the biopsy forceps (Figure 1). Initially, the patient was given intravenous ceftriaxone for presumed gonorrheal proctitis, without improvement. Histology showed severe necroinflammation, and cultures of the purulent material grew *P. bivia* and rare *Propionibacterium acnes*. The patient had a penicillin allergy. He was started on doxycycline and metronidazole with complete resolution of symptoms after 10 days.

DISCUSSION

Proctitis may be associated with crampy abdominal pain, fecal urgency, anal pain, perianal erosions or ulceration, anal pruritis, mucopurulent and/or bloody discharge, constipation, rectal fullness, or tenesmus.³ Infectious proctitis can be sexually transmitted via genital-anal or oral-anal mucosal contact. *N. gonorrhoea*, *C. trachomatis* (including

ACG Case Rep J 2016;3(4):e178. doi:10.14309/crj.2016.151. Published online: December 7, 2016.

Correspondence: Maen Masadeh, 200 Hawkins Drive, Iowa City, IA 52240 (maen_masadeh@hotmail.com).



Copyright: © 2016 Masadeh et al. This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0>.

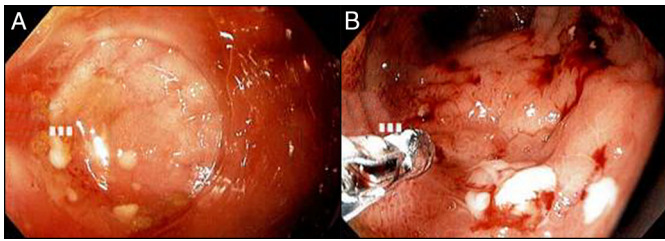


Figure 1. (A) Small pockets of pus were seen on rectal wall and (B) were opened with blunt biopsy forceps.

lymphogranuloma venereum), herpes simplex virus, and *T. pallidum* are the most common sexually transmitted pathogens.¹

P. acnes is a slow-growing Gram-positive rod that can cause acne and is reported to cause other infections like blepharitis and endophthalmitis. It is typically sensitive to cephalosporins, but in our patient only rare organisms were isolated and he did not respond initially to ceftriaxone, so this organism was not considered the cause of proctitis.

Prevotella belongs to one of the major genera of anaerobic Gram-negative rods. *P. bivia*, a member of the non-pigmented group, differs from *Bacteroides* in its inability to grow in the presence of bile and to hydrolyze esculin. *Prevotella* species produce β -lactamase and are usually susceptible to clindamycin, metronidazole, imipenem, and amoxicillin/clavulanate.⁴ *Prevotella* DNA has been detected in the human vaginal epithelia in 40% of healthy women, with a higher proportion in women with bacterial vaginosis.⁵ It is predominantly associated with infections in the female urogenital tract, presenting as endometritis, pelvic inflammatory disease, or anal abscess.⁶ Infections at unusual locations such as bones, joints, nail bed, male external genitalia, oral cavity, and endocardium have been reported.⁷⁻¹⁰ This is the first reported case of proctitis caused by *P. bivia*. Sexually transmitted infections like herpes simplex virus and gonorrhea can cause public health hazards, but due to a paucity of cases caused by *P. bivia* in the

literature, it is unknown if this pathogen can lead to such a hazard. Safe sexual practices should be always recommended, and tracing of the contacts might be indicated. Moreover, this pathogen should be considered when infectious proctitis is encountered and tests for common pathogens are negative.

DISCLOSURES

Author contributions: All authors contributed equally to manuscript creation. M. Masadeh is the article guarantor.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received May 15, 2016; Accepted August 8, 2016

REFERENCES

- Davis TW, Goldstone SE. Sexually transmitted infections as a cause of proctitis in men who have sex with men. *Dis Colon Rectum*. 2009;52(3):507-12.
- Tian LH, Peterman TA, Tao G, et al. Heterosexual anal sex activity in the year after an STD clinic visit. *Sex Transm Dis*. 2008;35(11):905-9.
- de Vries HJ. Sexually transmitted infections in men who have sex with men. *Clin Dermatol*. 2014;32(2):181-8.
- Brook I. Microbiology and management of polymicrobial female genital tract infections in adolescents. *J Pediatr Adolesc Gynecol*. 2002;15(4):217-26.
- Srinivasan S, Fredricks DN. The human vaginal bacterial biota and bacterial vaginosis. *Interdiscip Perspect Infect Dis*. 2008;2008:750479.
- Jousimies-Somer H. Recently described clinically important anaerobic bacteria: Taxonomic aspects and update. *Clin Infect Dis*. 1997;25:S78-S87.
- Alegre-Sancho JJ, Juanola X, Narvaez FJ, Roig-Escofet D. Septic arthritis due to *Prevotella bivia* in a patient with rheumatoid arthritis. *Joint Bone Spine*. 2000;67(3):228-9.
- Riesbeck K. Paronychia due to *Prevotella bivia* that resulted in amputation: Fast and correct bacteriological diagnosis is crucial. *J Clin Microbiol*. 2003;41(10):4901-3.
- Nalmas S, Bishburg E, Chan T. *Streptococcus constellatus* and *Prevotella bivia* penile abscess. *ScientificWorldJournal*. 2007;7:1631-3.
- Kentos A, Motte S, Nonhoff C, et al. *Prevotella bivia* as an unusual cause of endocarditis. *Eur J Clin Microbiol Infect Dis*. 1994;13(2):142-5.