

## The Gay Bowel Syndrome: Clinico-Pathologic Correlation in 260 Cases

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### ABSTRACT

The clinical and pathological findings in a group of 260 homosexual men comprising 10 percent of a private proctologic practice are reviewed. A clinical pattern of anorectal and colon diseases encountered with unusual frequency in these homosexual patients is termed the gay bowel syndrome. The clinical diagnoses in decreasing order of frequency include condyloma acuminata, hemorrhoids, nonspecific proctitis, anal fistula, perirectal abscess, anal fissure, amebiasis, benign polyps, viral hepatitis, gonorrhea, syphilis, anorectal trauma and foreign bodies, shigellosis, rectal ulcers and lymphogranuloma venereum.

Sixty anorectal and sigmoid biopsies from 51 patients failed to disclose evidence of specific infection other than condyloma acuminata. Of 21 patients with biopsy diagnosis of nonspecific proctitis, eight had a specific infection which was detected by other means, — five cases of shigellosis and one case each of gonorrheal proctitis, amebiasis and lymphogranuloma venereum.

In evaluating proctologic problems in the gay male, all of the known sexually transmitted diseases should be considered. Shigellosis, amebiasis and viral hepatitis should be included. Microbiological evaluation is essential. Concurrent infections with two or more pathogens should be anticipated. *Chlamydia trachomatis*, an important cause of nonspecific urethritis in the general population, is high on the list of possible causes of the nonspecific proctitis present in 31 of the 260 patients.

### Introduction

The spectrum of medical problems related to homosexual activity in men includes the five classical venereal diseases.<sup>5,6,8,9,11</sup> Orogenital, ororectal and proctogenital sexual contact may result in

these and other infections of the pharynx, intestinal tract and urogenital system. Trauma, often in conjunction with infectious agents, may play a role in the production of diseases, particularly in the anorectal area.<sup>5</sup>

A group of male homosexual patients comprising about 10 percent of a private proctologic practice afforded the opportunity to observe a pattern of disease which was in distinct contrast to that seen in the heterosexual majority. This pattern, seen repetitively over a period of several years, is the basis for the designation "gay bowel syndrome," a group of anorectal and colon conditions found with unusual frequency in male homosexuals.<sup>17</sup> This paper reviews the biopsy findings in 51 of a group of 260 male homosexuals who presented with this syndrome.

Certain characteristics are found in this group of patients. The majority are white middle or upper middle class men who live in New York City. In table I are shown the age ranges. Seventy percent are in the 20 to 40 year bracket with a range of 17 to 62 years. The occupations listed in table II are generally no different from those of a heterosexual population. A detailed sexual history was not obtained from every patient, but the majority are known to be sexually promiscuous. Chemical and mechanical prophylaxis is seldom used. The frequent combination of proctogenital and orogenital sexual practices predisposes to chronic irritation of the anorectal area and to a variety of infections. The conditions encountered include the classical venereal diseases, condyloma acuminata, common anorectal disorders (hemorrhoids, fissures, fistulas, abscesses), specific enteric infections and

TABLE I  
Age Breakdown of Patients

Age Range (Years)	Number of Patients
17 to 20	21
21 to 30	123
31 to 40	58
41 to 50	42
51 to 60	15
60+	1
Total	260

TABLE II  
Occupations of 260 Patients

Occupation	Number	Occupation	Number
Business executive	56	University professor	8
Student	42	Dancer	7
Actor	35	Hairdresser	7
Clerk	15	Salesman	6
Teacher	15	Lawyer	5
Interior decorator	11	Clergy	4
Musician	11	Male nurse	4
Artist	10	Social worker	3
Banker	8	Photographer	3
Physician	8	Steam room attendant	2

nonspecific proctocolitis. These diseases are not unique to this patient population. However, in this group they do occur with unusual frequency. The typical patient has a history of multiple diseases, which tend to recur. When alert to this clinical pattern, the physician may recognize the gay bowel syndrome even before a history of homosexuality has been elicited.

### Clinical Diagnoses

The clinical diagnoses made in the 260 patients are listed in table III. The extent of the diagnostic workup varied. No attempt was made to perform a complete microbiologic evaluation of every patient. Biopsy was performed in approximately 20 percent of the cases.

Condyloma acuminata was present in over 50 percent of the patients, usually in both perianal and intraanal locations. The classical venereal diseases are represented by syphilis, gonorrhea and lymphogranuloma venereum. There were no cases of chancroid or granuloma inguinale. Two of seven patients had skin lesions of secondary syphilis; there were no primary lesions. The diagnosis of syphilis was based on serologic tests. The diagnosis in the eight cases of gonorrhea was based on positive rectal culture. None had symptoms of urethritis and cultures of urethra and pharynx were not made. Five of the eight patients had painful proctitis

TABLE III  
Clinical Diagnoses of Patients

<i>Disorders</i>	<i>Number of Patients</i>	<i>Percent of Patients</i>
Condyloma acuminata	134	51.5
Hemorrhoids	43	16.5
Non-specific proctitis	31	12.0
Anal fistula	30	11.5
Perirectal abscess	18	6.9
Anal fissure	18	6.9
Amebiasis	17	6.5
Pruritus ani	16	6.0
Polyps (benign)	14	5.4
Hepatitis (occurring during treatment)	14	5.4
Rectal dyspareunia	13	5.0
Gonorrhea	8	3.1
Syphilis	7	2.7
Trauma and foreign bodies	7	2.7
Shigellosis	6	2.3
Rectal ulcers	4	1.9
Lymphogranuloma venereum	3	1.2
Anal incontinence	3	1.2
Solitary rectal ulcer	1	0.4
Bowen's disease, anus	1	0.4
Squamous cell carcinoma, anus	1	0.4
Other	1	0.4

or mucoid rectal discharge which responded to penicillin therapy. The other three patients presented with complaints apparently not related to proctitis. The three patients with lymphogranuloma venereum had rectal lesions which in two cases closely resembled adenocarcinoma both on physical examination and sigmoidoscopy. All three had positive Frei tests and responded to tetracycline therapy.

Symptomatic hemorrhoids, anal fissures, anal fistulas and abscesses were frequent. Insertion of the hand and even the forearm into the rectum as a means of obtaining sexual gratification is practiced by some male homosexuals. Rectal lacerations resulted in four patients and two additional patients had evidence of old injury with incontinence. In two patients, traumatic rectal fissures resulted from proctogenital intercourse.

Infections classified as enteric occurred in 37 patients. Six patients had shigellosis and four of these presented with

an acute proctocolitis resembling non-specific ulcerative colitis. The 17 cases of amebiasis were detected by stool examination which was performed in 65 cases. Fifteen additional patients gave a history of treatment for amebiasis. A diagnosis of viral hepatitis was made in 14 cases, and 22 additional patients had a history of hepatitis.

The third most frequent clinical diagnosis was nonspecific proctitis. These patients required extensive diagnostic studies to rule out specific infection. Rectal biopsy was done in 13 of the 31 cases. This form of proctitis may be an infectious process with anorectal irritation a contributing factor.

### Materials and Methods

Biopsy was performed in 51 of the 260 patients. Patients with proctocolitis and anorectal ulcerative lesions were often biopsied while those with lesions such as condyloma, anal fissure and anal fistula were usually diagnosed clinically. Every patient diagnosed as nonspecific proctitis underwent proctosigmoidoscopy, barium enema study, rectal culture for gonorrhea, stool culture for enteric pathogens, stool examination for ova and parasites and screening serologic test for syphilis. None of the 260 patients presented with clinical evidence of urethritis, pharyngitis or conjunctivitis and no cultures were obtained from these sites.

The tissue specimens were submitted in 10 percent formalin, processed in a routine manner, sectioned at six microns and stained with hematoxylin and eosin. In some cases of proctocolitis and anorectal ulcer, additional sections were stained with special stains for microorganisms (Giemsa, periodic acid Schiff, Brown and Brenn, Grocott and acid fast stains).

On the basis of the histologic diagnoses, the biopsies were grouped into seven categories as shown in table IV.

TABLE IV

Anorectal and Sigmoid Biopsies in 51 Patients

Category	Pathologic Diagnosis	Number of Patients
I	Condyloma acuminata	7
II	Adenomatous polyp	6
III	Proctitis/colitis	21
IV	Anal/rectal ulcer	8
V	Anal fissure/fistula	8
VI	Hemorrhoids	6
VII	Miscellaneous	4
Total		60

Four patients each had biopsy of two different lesions, one patient had three biopsies and another had four, for a total of 60 biopsies from the 51 patients.

### Results

The small number of cases of condyloma acuminata (category I) includes three cases in which the primary indication for biopsy was a lesion other than the condyloma. In 128 patients, the diagnosis of condyloma was made without biopsy. The seven biopsied lesions showed the typical verrucous pattern. In one case there was focal atypia and biopsy at another site showed intraepithelial squamous cell carcinoma of the anus.

The six adenomatous polyps in category II were unremarkable benign lesions. The eight biopsies in category IV (anal and rectal ulcer) showed ulceration with chronic nonspecific inflammation. Bacterial cultures and parasitology studies were negative in all and a specific diagnosis could not be made. In two cases the lesions could be related to trauma. In two other cases the clinical diagnosis was lymphogranuloma venereum. Three of the eight patients in category V had anal fissure or fistula plus an additional lesion (fistula plus condyloma, fistula plus hemorrhoids, fissure plus condyloma and hemorrhoids). There were no instances of granulomatous inflammation. The category VI lesions (hemorrhoids) were not unusual. In category VII there were three

anal or perianal specimens with nonspecific inflammation and the single case of anal intraepithelial carcinoma referred to previously. This neoplasm was an unexpected finding in tissue removed during operation for an anal fistula, hemorrhoids and condyloma acuminata.

Category III (proctitis/colitis) is the largest category with 21 biopsies. As noted previously, these patients had multiple diagnostic studies. In table V are presented the histologic diagnoses. The microscopic findings were nonspecific in all 21 cases so that in no case was etiology revealed by biopsy. In the same table it is shown that in 8 of the 21 cases a specific diagnosis of an infectious process was made on the basis of other studies leaving a residual group of 13 cases with a final diagnosis of nonspecific proctitis. Five of the eight patients had stool culture positive for *Shigella* (three *Shigella flexneri* and two *Shigella sonnei*). Rectal culture in one patient grew *Neisseria gonorrhoeae*. The stool of another patient contained *Entamoeba histolytica*. One patient in whom studies did not yield a pathogen was clinically diagnosed as lymphogranuloma venereum. Three of these eight cases of specific infection illustrate problems encountered by the pathologist in the evaluation of biopsy

TABLE V

Biopsies of Category III (Proctitis/Colitis)

Tissue Diagnosis	Number	Specific Clinical Diagnosis	
		Diagnosis	Number
Chronic non-specific inflammation	8	GC proctitis	1
		Shigellosis	1*
		Amebic proctitis	1
Chronic non-specific inflammation with ulceration	4	Shigellosis	1†
		Shigellosis	2*
Chronic non-specific active inflammation	5	Shigellosis	1†
Granulation tissue	1	LGV	1
Edema, focal hyperemia	3		
Total		21	Total 8

\**Shigella flexneri*†*Shigella sonnei*

specimens. These three cases will be reviewed in some detail.

### Case Reports

Case 1. A 20 year old white male student presented with the complaint of rectal pain. Rectal examination revealed a mild proctitis of the lower rectum. Biopsy showed a mild chronic nonspecific mucosal inflammation with no evidence of ulceration. No bacteria could be demonstrated with the Brown and Brenn stain. Rectal swab culture grew *Neisseria gonorrhoeae*. The rectal pain and proctitis disappeared after treatment with 4.8 million units of procaine penicillin and one g of probenecid. The clinical diagnosis was gonococcal proctitis.

The microscopical diagnosis in this case does not support the clinical diagnosis of gonococcal proctitis. The findings suggest a gonococcal carrier state in association with a nongonococcal proctitis. Owen and Hill<sup>11</sup> in their study of homosexual men stated that rectal and pharyngeal gonorrhea are largely asymptomatic and that rectal symptoms which do occur are probably related to local trauma of rectal intercourse, irritating lubricants, hemorrhoids, fissures or condylomata. The possibility in this case of sexually transmitted infectious agents other than *Neisseria gonorrhoeae* must also be considered. Microorganisms of the genus *Chlamydia* have not been evaluated as to their ability to infect the rectal mucosa. *Chlamydia trachomatis* causes about 50 percent of the cases of nongonococcal urethritis and postgonococcal urethritis has been attributed to *Chlamydia* acquired at the same time as the gonococcus.<sup>10</sup> The gay male is susceptible to rectal infections with both organisms, either singly or together. The response to penicillin therapy in our case of proctitis does not preclude a combined infection since penicillin has been shown to inhibit the growth of *Chlamydia*, although it is not an effective agent for the treatment of nonspecific urethritis. The need for further study of the role of *Chlamydia* and other cryptic infectious agents such as viruses in venereal nonspecific proctitis is evident.<sup>4,15</sup>

Case 2. A 43 year old white male professor presented with a generalized maculopapular skin eruption, perianal inflammation and multiple intraanal condyloma acuminata. There was diffuse hyperemia of the terminal 5 cm of the rectum. Rectal biopsy showed a mild chronic nonspecific inflammation with no ulceration and no evidence of microorganisms. The pattern was not that of a syphilitic proctitis. Culture of the rectum was negative for *Neisseria gonorrhoeae* and stool cultures were also negative. Serologic tests for syphilis were reactive with a reagin titer of 1:64. Stool examination revealed trophozoites and cysts of *Entamoeba histolytica* together with *Entamoeba coli*. The clinical diagnoses were secondary syphilis and amebic proctitis. Treatment with benzathene penicillin G and diiodohydroxyquin was followed by disappearance of the skin and rectal lesions. The condylomata responded to topical bichloroacetic acid. Recovery

was interrupted by the onset of jaundice leading to an additional diagnosis of viral hepatitis.

The clinical diagnoses in this case implicated four different infectious agents none of which was evident in the rectal biopsy. The proctitis may have been caused by *Entamoeba histolytica* which has been reported to cause a diffuse proctitis.<sup>14</sup> Failure to demonstrate amebas in biopsy sections does not rule out the diagnosis of amebic proctitis since this organism may escape detection in a single biopsy.<sup>12,13</sup> However, the possibility of an ameba carrier state in association with a nongonococcal proctitis owing to *Chlamydia trachomatis* or some other venereal infectious agent must also be considered. The presence of unrecognized infectious agents can be anticipated in a promiscuous patient who presents evidence of concurrent spirochetal, protozoal and viral infections.

Case 3. A 38 year old white male television producer was admitted with bloody diarrhea and fever of 103° F. Past history included one episode of undiagnosed jaundice 15 years before and treatment for gonococcal proctitis three years previously. At sigmoidoscopy, a diffusely hyperemic friable mucosa suggested nonspecific ulcerative colitis. Rectal biopsy (figure 1) disclosed severe mucosal changes consistent with chronic nonspecific ulcerative colitis. The biopsy changes included superficial ulceration, recent hemorrhage, chronic inflammatory cell reaction, depletion of goblet cells and crypt abscesses. *Shigella flexneri* was isolated from the stool and later from two blood cultures. There was radiologic evidence of ulceration throughout the colon. The patient's course was complicated by the development of toxic megacolon and *Klebsiella* bacteremia. Treatment included both antibiotic and steroids. The patient slowly recovered and was discharged on the 54th hospital day. Rectal biopsy at that time showed almost complete resolution (figure 2).

As in the two previous cases, a specific diagnosis in Case #3 could not be made from the biopsy. The biopsy not only failed to demonstrate an etiologic agent but could have been confusing in that the histopathologic pattern was identical with the active phase of nonspecific ulcerative colitis. It is not known whether this case represents *Shigella* colitis in a previously normal host or whether the infection has developed in a patient with a propensity to ulcerative colitis. The infection was of unusual severity as evidenced by the prolonged course with the development of toxic megacolon and bacteremia. The history of homosexuality, "hepatitis" and gonococcal proctitis is indicative of the gay bowel syndrome which is associated with an increased risk of enteric infection. With this background Shigellosis could be anticipated as a likely possibility.

### Discussion

The male homosexual patients seen in a proctologic practice in New York City presented with a pattern of multiple proc-

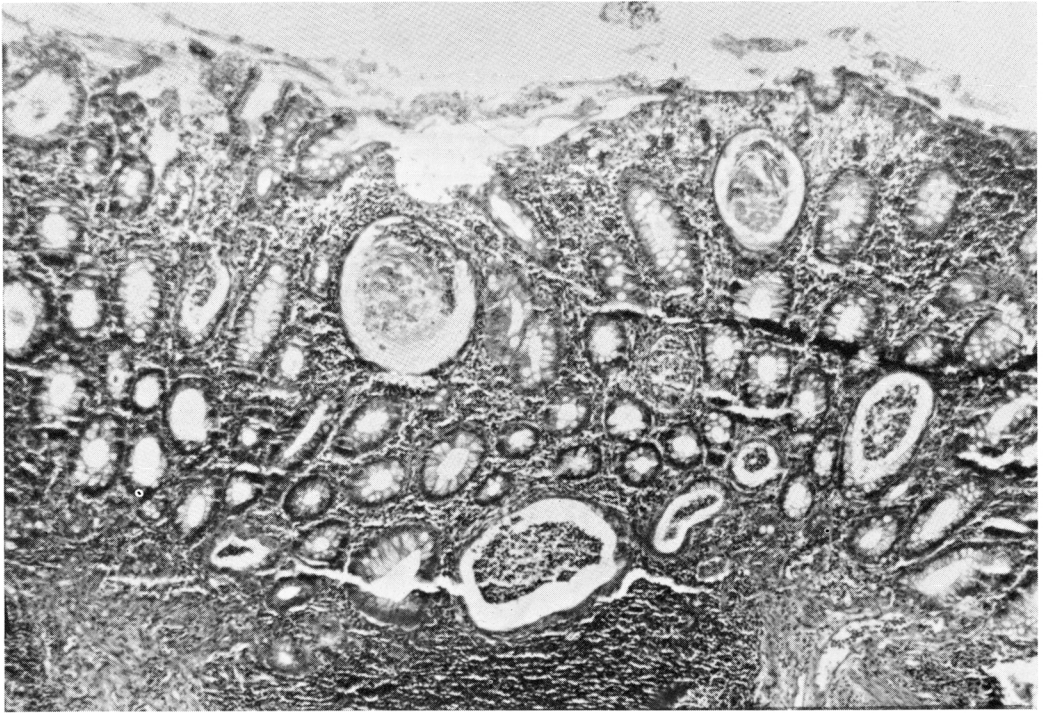


Figure 1. Initial rectal biopsy from Case 3 (*Shigellosis*) with severe mucosal changes consistent with active chronic ulcerative colitis. (H & E  $\times$  150)

tologic diseases which the authors have called the gay bowel syndrome. In the absence of a history of homosexuality, the physician may be alerted to the gay bowel syndrome by anal condyloma acuminata. When this sentinel lesion is not present, the syndrome may be suspected by a constellation of other findings. Once the syndrome is recognized, specific infections should be searched for with appropriate microbiological studies.

Of the five classical venereal diseases, gonorrhea and syphilis are foremost. Lymphogranuloma venereum is uncommon and no cases of chancroid and granuloma inguinale were found in the present series. The incidence of positive rectal cultures for *Neisseria gonorrhoeae* is low in the current study group. Cultures of the rectum and pharynx every patient would no doubt have shown a higher incidence. Of interest in this con-

nection is the question of the relative effectiveness of collection of the rectal specimen with and without the use of an anoscope or proctoscope. A factor in the low incidence of positive cultures may be the readiness of the gay male to seek penicillin therapy following high risk exposure. These patients are currently advised to have cultures of rectum, urethra and pharynx for *Neisseria gonorrhoeae* and a screening serologic test for syphilis every three months and whenever a high risk exposure has occurred.

The occurrence of *Shigellosis* and amebiasis in this group of patients indicates that these diseases should be included in the list of venereal diseases which may affect the male homosexual. Their occurrence is attributed to the common promiscuity of gay males and to the many opportunities for fecal-oral contact. The cases were scattered with no



Figure 2. Rectal biopsy from Case 3 approximately seven weeks later with resolution of inflammatory changes following therapy. (H & E  $\times 150$ )

suggestion of epidemic spread. These patients could be a public health hazard if employed as food handlers. Periodic examination of stools for enteric pathogens and parasites is indicated.

The person-to-person transmission of hepatitis A has been generally accepted as occurring primarily by the fecal-oral route, and there is evidence suggesting that hepatitis B may be transmitted in this manner.<sup>2</sup> The incidence of hepatitis in our series supports the concept of a sexually transmitted infection. There are insufficient data to determine the method of transmission but the fecal-oral route appears to be the most likely.

Biopsy of one or more lesions may be necessary in some patients with the gay

bowel syndrome particularly in those with proctocolitis and/or ulceration. The histopathologic findings may be entirely nonspecific even when a pathogenic microorganism has been identified. Realization that *Entamoeba histolytica* may be missed in biopsies if care is not taken to preserve the surface mucous exudate may encourage improved techniques of obtaining and handling the tissue and overlying mucus with an increased chance of visualization of the amebas.<sup>12</sup> The biopsy in *Shigellosis* can show a microscopical pattern identical with that of nonspecific ulcerative colitis. The authors believe that all patients with a microscopic diagnosis of ulcerative colitis should have appropriate studies of a di-

rect mucosal swab specimen for *Shigella* and other enteric infections.

Our knowledge of the pathogenesis of infections in the gay bowel syndrome is incomplete. Studies are needed to evaluate the full spectrum of pathogenic microorganisms to which these patients are exposed. The list of microorganisms known to be transmitted heterosexually includes *Neisseria gonorrhoeae*, *Treponema pallidum*, *Haemophilus ducreyi*, *Calymmatobacterium granulomatis* (Donovania), *Haemophilus vaginalis* (Corynebacterium), *Streptococcus* group B, *Chlamydia* species (lymphogranuloma venereum, some cases of nonspecific urethritis and cervicitis), genital mycoplasmas, wart virus (condyloma acuminata), Herpes virus hominis, hepatitis B virus, cytomegalovirus, molluscum contagiosum virus, *Candida albicans* and *Trichomonas vaginalis*. Of the six venereal diseases which are currently at or near epidemic proportions in the general population (gonorrhea, nongonococcal urethritis, condyloma acuminata, herpes progeneralis, trichomoniasis, candidiasis), only gonorrhea and condyloma were recognized in our group of patients.

Gonorrhea and condyloma acuminata were limited to the anorectal area in the present series with no instances of gonococcal urethritis or genital condylomas. Genital herpes, recently reported to be seven times more frequent than syphilis in one heterosexual population,<sup>1</sup> was not found in any of our patients. Despite reports that nongonococcal urethritis is very common among sexually active men in the general population,<sup>3,15,16</sup> no cases were diagnosed in our homosexual population. This absence of gonococcal and nongonococcal urethritis, genital condylomas and *Herpes progeneralis* is impressive. It may be partly explained on the basis that patients with urethral and genital problems would not visit a proctologist. A second factor could be preference in these

proctologic patients for a receptor (female) role. The receptive partner would be likely to contract gonococcal and nongonococcal proctitis and anal condylomas. Herpesvirus and other genital pathogens would be implanted in the anorectal tissue. Although herpetic type lesions were not found in any patient either clinically or in biopsy sections, the possibility of having overlooked cryptic herpetic lesions is now being considered.

The small obligate intracellular microorganisms of the genus *Chlamydia* are high on the list of possible causes of the nonspecific proctitis seen in 12 percent of our patients. There is increasing evidence that these organisms are important causes of genital tract infections in adults of both sexes.<sup>15</sup> Subgroup A of the genus, *Chlamydia trachomatis*, includes the TRIC agent which causes trachoma and inclusion conjunctivitis. At least one half of the cases of nongonococcal urethritis in heterosexual males have been attributed to *Chlamydia trachomatis* and some cases of postgonococcal urethritis result from simultaneous infection with *Neisseria gonorrhoeae* and *Chlamydia*.<sup>10</sup> Transmission of one or both organisms from urethra to rectum in gay males could result in a similar pattern of gonococcal, nongonococcal and postgonococcal proctitis. The recent clarification of the role of *Chlamydia* in urethritis was preceded by the development of improved tissue culture and serologic techniques.<sup>16</sup> These techniques may make it possible to determine the incidence of *Chlamydia* in the urethra, rectum, pharynx and conjunctiva of the gay male and to ascertain its role in the complex infectious processes which occur in these patients. Tetracycline is currently the most effective antibiotic for the treatment of nongonococcal urethritis. Many of our patients with nonspecific proctitis manifested by rectal bleeding, mucous discharge or mild diarrhea failed to respond to therapy which included



broad spectrum antibiotics. However, the effectiveness of tetracycline has not been evaluated.

In evaluating proctologic problems in gay males, it is apparent that all of the sexually transmitted microorganisms which infect the heterosexual population should be considered. The role of some of these organisms is clear. An understanding of the role of others must await further investigation. Asymptomatic infection and concomitant infections with two or more organisms add to the complexity of the problem. The knowledge that extensive microbiologic evaluation is indicated and that isolation of one pathogen does not preclude the possibility of others has practical implications in the management of the patient with the gay bowel syndrome.

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