Hemorrhoids: Associated Pathologic Conditions In A Family Practice Population

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Abstract: Background: Hemorrhoidal disease is an affliction that in referral populations coexists with other significant anorectal diseases. Published texts recommend aggressive procedures to diagnose associated pathologic conditions and as an aid for planning the extirpation of these diseases. Procrastination in management is said to be characteristic of both patient and primary care physician. The purpose of this study was to ascertain whether patients with hemorrhoids in the general population are truly at high risk for significant anorectal disease.

Methods: Charts of 173 patients with hemorrhoids from a nonselected population were reviewed for treatment management, associated anorectal disease, and sequelae.

Results: A small subpopulation of persons aged more than 55 years was identified who may be at higher risk for colon polyps. Anoscopy, barium enema, fecal occult blood testing, and complete blood counts had very low yields. These findings differ significantly from data collected on highly selected populations that suggest hemorrhoids rarely exist alone.

Conclusions: It appears that family physicians have not been cavalier in their attitudes toward and management of this common ailment. Clinical investigation of hemorrhoids should be initiated based on clinical impression from evaluating symptoms and signs combined with age-specific screening recommendations. (J Am Board Fam Pract 1991; 4:389-94.)

The frequency of hemorrhoidal disease is unknown. It has been suggested that as many as 58 percent of adults 40 years and older will suffer from hemorrhoidal disease.[1] Few large population studies exist. One epidemiological review by Johanson and Sonnenberg,[2] including data from the National Health Interview Survey, indicated a prevalence rate of 4.4 percent in the United States. In their review, after combining data from the United States with data from England and Wales, Johanson and Sonnenberg found a peak in prevalence in persons aged between 45 and 65 years, with subsequent decrease in prevalence after that age. They confirmed that hemorrhoidal disease in those younger than 20 years old was unusual. Overall, whites were 1.5 times more likely to suffer hemorrhoidal disease than blacks, and increased prevalence rates were associated with a higher socioeconomic status most noticeably in England and Wales. Other studies using routine anoscopy found that 20 to 30 percent of all adults examined have demonstrable hemorrhoids and that 40 to 60 percent of those with anorectal complaints have significant hemorrhoidal disease.[3]

Researchers have ascribed underlying causes of hemorrhoidal disease to diet, constipation, straining at stool, portal hypertension, and carcinoma, and conflicting evidence remains in the literature perhaps, in part, because similar symptoms may be indicators of serious colorectal disease. Thomson[4] has suggested that internal hemorrhoids are vascular cushions of connective tissue supporting venular arteriolar communications but found no varicose dilatations or direct communication with major branches of the portal vein. Some authors, however, have continued to note a higher prevalence of hemorrhoidal disease associated with portal hypertension.[5] This finding is disputed by others.[6,7]

Weinstein[1] has suggested that hemorrhoids rarely exist alone but coexist with other significant anorectal diseases in 75.5 percent of patients. The

Table 1. Utilization and Efficacy of Procedures for Patients (N = 173) with Hemorrhoids.

Procedure	Total Procedures Performed No. (%)	Total Procedures Not Performed No. (%)	Procedures Recommended But Refused No. (%)	Procedure Results Normal No. (%)
Sigmoidoscopy	72 (41.6)	87 (50.3)	14 (8.1)	57 (79.2)
Anoscopy	85 (49.1)	88 (50.9)	0	73 (85.9)
Barium enema	24 (13.9)	147 (85)	2 (1.1)	18 (75)
Complete blood count	62 (35.8)	111 (64.2)	0	58 (93.5)
Stools for occult blood	100 (57.8)	73 (42.2)	0	75 (75)

population he studied, however, was highly selective, as all patients had been referred for surgery because of bleeding complications, protrusion, and pain from hemorrhoidal disease. Proponents of the "compression theory" have recommended that all patients seen for hemorrhoids be examined with barium enema and sigmoidoscopy,[1,8,9] because hemorrhoids are more frequently seen among patients with carcinoma of the rectum than among the general population.[9-11] It has been further recommended that sigmoidoscopy be performed on all patients with hemorrhoids to classify their associated disease processes and to aid in planning the surgical procedure required to extirpate the hemorrhoids. More recently, authors have concluded that sigmoidoscopy is not strictly indicated in patients younger than 40 years.[12,13] Others have indicated flexible sigmoidoscopy as mandatory for all patients with rectal bleeding, even if a bleeding hemorrhoid is identified on anoscopy.[14,15] Both patient and the primary care physician characteristically have procrastinated in approaching definitive surgical care.[1] We have found no primary care studies that clarify these issues.

The purpose of this study was to answer the following clinical questions: (1) Are hemorrhoids associated with significant anorectal disease in the general population, and (2) Can guidelines be clarified for appropriate work-up of patients with hemorrhoids in the family practice setting?

Methods
Persons chosen for this study were all patients who had external or internal hemorrhoids diagnosed and were seen in the model Family Practice Center of the Department of Family Practice at SUNY, Stony Brook, between 1981 and 1988. The Family Practice Center is a university-based teaching center with an enrollment of approxi-

mately 4000 patients; 61 percent are women, 1 percent Asian, 6 percent black, 2 percent Hispanic, 91 percent white, 0.3 percent other. Forty-two percent are married, 43 percent single, 4 percent separated, 6 percent divorced, and 5 percent are widowed. Sixteen percent are younger than 20 years, 43 percent are aged between 20 and 39 years, 23 percent between 40 and 59 years, and 18 percent are more than 59 years of age. There are 10 full-time faculty and 15 resident physicians. Residents have preceptors available for all patients.

During the study period the medical charts of 173 patients with a diagnosis of either hemorrhoids, internal hemorrhoids, or external hemorrhoids were reviewed. Frequency distributions were compiled for patients' demographic characteristics, co-existing diseases, sigmoidoscopy, anoscopy, barium enema, stool tests for occult blood, complete blood count (CBC), presence and duration of symptoms, gastroenterologic or surgical referral, hemorrhoids as presenting complaint or incidental finding, sequelae of hemorrhoids, and time interval between first visit for hemorrhoid and last visit the patient had been seen for any reason.

Chi-squares were calculated to determine statistically significant relations between type and frequency of tests ordered and the following: age, sex, occupation, type of hemorrhoids, and duration of symptoms prior to first visit.

Results
Sigmoidoscopy was performed in 72 patients (41.6 percent). Of the 87 patients who did not have sigmoidoscopy performed (50.3 percent), 14 (8.1 percent) had refused the procedure (Table 1). Sigmoidoscopy findings were normal (excluding hemorrhoids) in 57 patients (79.2 percent) and abnormal in 15 (20.8 percent). There were no associated fistulas and no associated fissure, and

Table 2. Abnormalities Found by Procedure.

Abnormalities	Sigmoidoscopy	Anoscopy	Barium Enema	Stools for Occult Blood
Cancer	0	0	1	0
Fistula	0	0	0	0
Fissure	0	6	0	6
Active bleeding	6	6	0	0
Inflammatory bowel	0	0	0	0
Diverticuli	0	0	5	1
Polyp	9	0	0	1

active bleeding was noted in 6 patients. Nine patients had polyps (Table 2).

Anoscopy was performed in 85 patients (49.5 percent) and not performed in 88 (50.5 percent) (Table 1). Anoscopy findings were normal in 73 patients (85.9 percent) and abnormal in 12 patients (14.1 percent). There were no associated fistulas or cancers; 6 patients had fissures, and 6 had bleeding (Table 2).

Barium enema was performed in 24 patients (13.9 percent) and recommended but not performed in 2 patients (Table 1). Eighteen patients had normal results on barium enema (75 percent) and 6 (25 percent) had abnormal findings. Abnormal findings consisted of predominantly benign entities. No patients had inflammatory bowel disease, 5 patients had diverticuli, and only 1 had a mass lesion (Table 2).

Complete blood counts, of which four were abnormal, were performed in 62 patients (35.8 percent).

Stool tests for occult blood were performed on 100 patients (57.8 percent), not performed in 33 (19.1 percent) patients, and not recorded in 40 charts. Twenty-five patients had stools positive for occult blood (Table 1). None of these patients had cancer, and 1 had a polyp (Table 2).

Of the 25 patients whose stool tests were positive for occult blood, 16 (64 percent) received recommendations for sigmoidoscopy, 17 (68 percent) for anoscopy, 19 (76 percent) for complete blood count, and 16 (64 percent) for barium enema.

Bleeding was recorded as present for 102 patients, was recorded as not present for 32 patients, and was not recorded for 39 patients. Prolapse was recorded in the charts of 20 patients, was specifically mentioned as not being present for 19 patients, and not mentioned in 134 charts. Pain was recorded as being present for 57 patients,

specifically recorded as being absent for 36 patients, and not recorded in the charts of 80 patients. Thrombosed hemorrhoids were specifically mentioned in 18 patient charts, denied in 36 patients, and not recorded in 117 charts. Pruritus was a specific complaint for 21 patients, denied by 21 patients, and not mentioned in 131 charts. Constipation was recorded in 41 patients, denied in 51 patients, and not recorded for 81 patients. Constipating medicines were documented for 15 patients, denied in 158 patients.

Twenty patients (11.5 percent) were referred to a specialist. One patient (0.6 percent of the original population group) was discovered to have a mass lesion in the colon. There were no diagnosed cases of inflammatory bowel disease, intractable bleeding, pain, or fistulas. We noted no co-existing cases of hepatic cirrhosis. All cases of polyps had been diagnosed previously by the family physician and confirmed by specialists except for one case in which the specialist could not confirm the polyps. None of these polyps was malignant.

Hemorrhoids were an incidental finding in 76 patients (43.9 percent) and were a complaint of 72 patients (42 percent). Table 3 depicts procedures and their frequency of recommendation or utilization in patients having hemorrhoids as an incidental finding. Table 3 also shows the same trends

Table 3. Procedures Ordered as a Function of Hemorrhoids as Incidental Finding (n = 76) or Presenting Complaint (n = 72).

Procedure Ordered/ Recommended	Incidental Finding No. (%)	Presenting Complaint No. (%)
Sigmoidscopy	41 (54)	32 (44)
Anoscopy	38 (50)	37 (51)
Barium enema	11 (14)	11 (15)
Stools for occult blood	66 (87)	64 (89)
Complete blood count	29 (38)	23 (32)

when hemorrhoids were a presenting complaint of the patient. In 25 charts it was unclear whether the hemorrhoid was an incidental finding.

Follow-up of patients with hemorrhoids was accomplished by comparing patients' medical problem lists and progress notes during the interval between the patients' first visit for hemorrhoids and their last clinic visit for all medical problems. For 43 patients (25.6 percent) there had been no further contact with the physician. For 31 patients there was a 1- to 6-month follow-up (18.6 percent), for 21 patients a 7- to 12-month follow-up (12.6 percent), for 23 patients a 13- to 24-month follow-up (13.8 percent), for 22 patients a 25- to 36-month follow-up (13.2 percent), and for 26 patients, a 37-month and more follow-up (16.2 percent).

Sequelae were found in only 2 patients (1.1 percent), with no sequelae in 169 (98.9 percent). One patient had colon cancer; the other patient had pancreatic cancer. During the period of chart review, eight cases of colon carcinoma and nine noncolon gastrointestinal cancers were diagnosed in our practice in patients without hemorrhoidal disease.

Patient age, sex, type of hemorrhoids, and duration of symptoms were cross-tabulated with complete blood counts, sigmoidoscopy, anoscopy, barium enema, and stool for occult blood to ascertain significant relations between pairs of variables.

Generally, the number of tests ordered (i.e., barium enema, sigmoidoscopy, and complete blood count) increased as age increased. This finding did not hold true, however, for anoscopy, for which the frequency was highest in middle age (46 to 55 years) and lowest for the 36- to 45-year and 56- to 65-year age groups.

There were no significant relations between sex of patients or duration of symptoms prior to the patients' first visit and performance of tests or procedures.

Generally, patients with internal or a combination of internal and external hemorrhoids were more likely to have a test than were patients with external or unclassified hemorrhoids.

Discussion

Conclusions regarding physician approach toward hemorrhoidal management based upon the practice habits of 10 academic physicians are

Table 4. Colorectal Disease Associated with Hemorrhoids, Selected versus General Population.

Associated Disease	Selected Population* No. (%)	General Population No. (%)
Fissure	63 (31.5)	6 (7)
Fistula	19 (9.5)	0 (0)
Perianal abscesses	8 (4.0)	0 (0)
Chronic cryptitis	33 (16.5)	0 (0)
Polyps	18 (9.0)	9 (12.5)
Colon cancer	0 (0)	1 (0.05)

*From Weinstein.[1]

difficult to generalize to the general population of family physicians.

This study is further limited by its small population size and the relatively few patients who had sigmoidoscopy or barium enema to rule out colon cancer. Additionally, the chart review would potentially miss cancer in the 26 percent of patients who did not return, as well as in the 31 percent of patients seen only within 1 year of diagnosis of hemorrhoids who could have slowly growing tumors. There was, however, much less associated colorectal disease found in this study than was found in studies of selected populations, as depicted by Table 4. Weinstein[1] reported 63 fissures (31.5 percent) in his retrospective review of 200 referred patients compared with six (9 percent) in this study. The selected population uncovered 19 (9.5 percent) fistulas, 8 (4 percent) perianal abscesses, 33 (16.5 percent) cases of chronic cryptitis compared with none in the family practice population.

Sigmoidoscopy was recommended by family physicians in approximately 50 percent of cases where hemorrhoids were noted in this study. The detection of polyps by sigmoidoscopy has varied from 2.3 percent to 12.3 percent[16] to as high as 17 percent in high-risk occupational groups, such as male pattern and model makers.[17] In Weinstein's[1] population, 18 patients (9 percent) had polyps, while in this study 9 patients (12.5 percent) had polyps. The median age of these patients was 67 years, with the youngest aged 55 years. Weinstein's study does not report the age of patients found to have polyps, but the high yield of polyps found in the nonselected group may indicate a subgroup of high-risk patients with hemorrhoids who may benefit from sigmoidoscopy screening. All 9 of our patients were referred for

endoscopy and polypectomy. None had colon cancer. Additionally, because the median age of these patients was 67 years, the polyps could have been discovered had sigmoidoscopy been performed as part of a routine screening, as recommended by the American Cancer Society, rather than as a routine work-up for hemorrhoidal disease.

Only 50 percent of patients had anoscopy performed. Yield for pathologic lesions was low, with only 14 percent of the procedures demonstrating abnormalities, none of which indicated severe anorectal disease.

Although the majority of patients having barium enemas had abnormalities, these findings were minor (diverticuli) except for the one mass lesion. This patient was aged 70 years and had an external hemorrhoid as an incidental finding. The patient's work-up ensued because of weight loss and anemia, not because of hemorrhoidal disease.

It was difficult to determine what motivated physicians to order a complete blood count. When patients' stools were positive for occult blood, however, a complete blood count was ordered 76 percent of the time. In no case did the findings from a complete blood count lead to the detection of significant systemic disease. In no cases were there significant sequelae in patients for whom a complete blood count was not ordered.

Stool test for occult blood, although the most frequent test performed, did not yield many important findings. In fact, 1 patient in the study with colon cancer had stools that were negative for occult blood. Additionally, of the 9 patients in this study with polyps, only 1 had stools positive for occult blood (sensitivity 11 percent); the others were negative. Stools positive for occult blood, however, were positively correlated with high utilization of procedures and low yield of pathologic condition. Based on these data, there is no evidence to support routine testing of stools for occult blood for a general population of patients with hemorrhoidal complaints.

A low percentage (11.5 percent) of patients were referred to specialists. In only 1 patient was there a serious illness (colon cancer), and the colonic mass was discovered by the referring physician. In no cases were there significant sequelae in patients for whom consultation or referral was

not made. One hemicolectomy and nine polypectomies were performed in this nonselected group of patients compared with 99 classical Buie hemorrhoidectomies, 51 classical Buie hemorrhoidectomies with fissurectomies, 5 classical hemorrhoidectomies with fistulectomies, 28 radical Buie hemorrhoidectomies, and 113 sphincterotomies in Weinstein's group.[1]

Conclusion

There was significantly less associated colorectal disease uncovered in this study than in similar studies on selected populations. The 1 patient of 173 who had significant disease (colon cancer) had normal findings on sigmoidoscopy, had negative findings on stool test for occult blood, and had hemorrhoids discovered as an incidental finding; the patient underwent barium enema because of unintentional weight loss and anemia. Nine patients had polyps found by sigmoidoscopy, none of which was malignant and all of which could have been discovered by routine screening. Screening sigmoidoscopy is probably not routinely performed on all patients; it would seem prudent, therefore, to recommend sigmoidoscopy for patients with hemorrhoids who are 55 years of age or older, as they may represent a subpopulation at higher risk.

Although the sample size in this study was small, anoscopy, barium enema, fecal occult blood, and complete blood counts all had very low yields. These findings differ significantly from data collected on highly selected populations, which suggest hemorrhoids rarely exist alone but coexist with other anorectal diseases. The implication of our data is also inconsistent with recommendations put forth by proponents of the "compression theory," who recommend that all patients seen for hemorrhoids should be examined with barium enema and sigmoidoscopy.

It appears that in a nonselected population, patients and family physicians have not been cavalier in their attitudes toward and management of hemorrhoids. One could hardly even be accused of mild constraint if the performance and cost of 63 sigmoidoscopies, 73 anoscopies, 23 barium enemas, 100 stool examinations for occult blood, and 20 specialist consultations yielded no benefits. From the data collected, we conclude that hemorrhoidal disease in the general population

is rarely associated with significant anorectal diseases.

We suggest, based on our preliminary study, that a reasonable minimum assessment of patients with hemorrhoids include an accurate history of symptoms, including assessment of risk factors and symptoms that may suggest the presence of other colorectal diseases. Physical examinations should include inspection and digital examination. Anoscopy is useful to confirm the diagnosis and to stage the hemorrhoids, and it is recommended in the presence of bleeding, a palpable mass, or pain. The presence of hemorrhoids alone does not necessitate further work-up; however, prudence is suggested in contributing the patient's symptoms to hemorrhoids when age, history, or findings from a physical examination suggest high risk for major disease. A larger prospective study is necessary to establish the possible existence of subpopulations at risk and a further delineation of guidelines.

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