

## A Prospective Comparison of Anoscopy and Fiberendoscopy in Detecting Anal Lesions

S. M. Kelly, M.D., R. A. Sanowski, M.D., P. G. Foutch, D.O.,  
S. Bellapralu, M.D., and W. C. Haynes, M.D.

With the increase in rectal and perianal disease, thorough examination of this area is necessary in every patient with colorectal complaints. We compared the current fibersigmoidoscope and colonoscope with routine anoscopy in the detection rate of perianal pathology in 115 consecutive patients. Straight withdrawal and retroflexion in the rectum of the fiberoptic instruments led to lesion detection rates of 78% and 54%, respectively. The anoscope showed 99% of lesions. Anoscopy was easily learned and required less than a minute to perform. We conclude that anoscopy should be performed in every patient undergoing fibersigmoidoscopy or colonoscopy. Instructions in this procedure should be provided in all training programs.

**Key Words:** Anoscopy—Fiberendoscopy.

With the substitution of the fiberoptic sigmoidoscope and colonoscope for rigid sigmoidoscopy in evaluating colorectal disease, anoscopy has become a neglected procedure. Current training programs do not emphasize instruction in anoscopy. Because hemorrhoids are a common source of complaints and because infectious and structural lesions such as fissures and fistulas may be overlooked during the fiberoptic examination, routine use of anoscopy may increase the diagnostic yield. The anorectal examination has also assumed new importance with the increased occurrence of sexually transmitted diseases such as gonorrhea, herpes, syphilis, condyloma acuminatum, chancroid, and lymphogranuloma venereum (1). To assess the place of anoscopy in diagnosing anal lesions, we compared this procedure with the straight withdrawal of fiberoptic instruments through the anal canal and retroflexion in the rectum.

### METHODS

One hundred fifteen consecutive patients were examined. The age range was 25-87 with a mean of 60. One hundred thirteen were male and two were female. Eighty-five symptomatic patients were examined in the outpatient fibersigmoidoscopy clinic. The reasons for referral were hematochezia, diarrhea, and abdominal pain. An additional 30 patients undergoing colonoscopy for various reasons were examined.

Examinations were performed with either the Olympus CFP 10S 60 cm fibersigmoidoscope or the Olympus LB3W colonoscope (Olympus Corporation, New Hyde Park, NY). Anoscopy was performed with the American Hospital (Phoenix, AZ) disposable anoscope with an attachable Welch Allyn (Skaneateles Falls, NY) light source. Patient tolerance and the procedure time for anoscopy were recorded.

Retroflexion of the fiberoptic endoscopes were made by the method described by Grobe et al. (2). All patients were examined with the anoscope and either the flexible sigmoidoscope or colonoscope. Anoscopy was performed initially, followed by retroflexion and straight withdrawal through the anal canal. Results were recorded after each portion of the examination. The diagnostic yield was limited to the findings

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From the Gastroenterology Section, VA Medical Center, Phoenix, Arizona.

Address correspondence and reprint requests to Robert A. Sanowski, M.D., Chief, Gastroenterology Section, VA Medical Center, 7th Street and Indian School Rd., Phoenix, AZ 85012, U.S.A.

**TABLE 1.** Disease detection rates in 115 patients

| Total lesions | Anoscopy | Retroflexion | Straight withdrawal |
|---------------|----------|--------------|---------------------|
| 101           | 99%      | 54%          | 78%                 |

A, Anoscopy; RF, retroflexion; SW, straight withdrawal.

seen at anoscopy and during the fiberoptic examination. Two physicians independently alternated the fiberoptic or anoscopic examination in each patient to evaluate the findings in an unbiased manner.

## RESULTS

Disease detection rates are listed in Table 1. One hundred one of 115 patients had detectable anal pathology, usually hemorrhoids, as might be expected in our patient population of middle-aged to elderly males. No sexually transmitted diseases was noted in this older age group. Anoscopy detected 99 of 101 lesions (99%), while careful straight withdrawal demonstrated 78 of 101 lesions (78%), and retroflexion of the endoscope only 54 of 101 lesions (54%). The combination of straight withdrawal and retroflexion detected 84% of lesions.

The specific anal lesions detected are given in Table 2. Hemorrhoids were the predominant findings and were graded as follows: 1+ internal, not prolapsed; 2+ prolapsed; 3+ prolapsed, reducible; 4+ prolapsed, nonreducible. Additionally, one fissure, one fistula, and one squamous papilloma were seen. No cancer was detected in this series. Anoscopy time averaged 53 seconds per patient. The procedure was well tolerated and no complications occurred from any method of examination.

## DISCUSSION

While fiberendoscopy is a valuable and increasingly used diagnostic tool in detecting distal colorectal lesions, no previous attempt has been made to compare

its usefulness in delineating lesions in the anal canal to anoscopy (3,4). Colonoscopy is superior to barium enema in detecting colonic lesions, but it too has not been critically evaluated in the diagnosis of anal lesions (5). The fiberoptic instruments can be retroflexed in the rectal vault, a maneuver that Grobe et al. (2) found to increase diagnostic yield and that was well tolerated. However, our study indicates that both retroflexion and straight withdrawal were inferior to anoscopy. Only 54% of anal lesions were detected by retroflexion. Straight withdrawal was a more effective tool, as it detected 78% of lesions.

Anoscopy has proven valuable in the detection of hemorrhoids, epidermoid cancer, and sexually transmitted disease (6-10). The incidence of hemorrhoids in our patients was 86%, similar to the figure observed by Haas et al. (11) who detected lesions in 88% of symptomatic patients and 82% of asymptomatic patients. Although our patients had no sexually transmitted disease, other studies have indicated that anoscopy is valuable in discovering these lesions. Quinn et al. (7) found 80% of patients with anal complaints had findings at anoscopy, and recommended anoscopy for all homosexual men with intestinal or rectal symptoms. William et al. (6) showed that the use of anoscopically directed smears in patients with suspected rectal gonorrhea significantly increased the sensitivity and specificity of gram stains versus blind swabs of the anus. Anoscopy was also useful in detecting internal hemorrhoids, fissures, condyloma acuminatum, intra-rectal tears, and amebic colitis (6).

Although the lesions that were missed in our study may be of limited clinical importance, more important anal lesions may not be detected by fiberoptic instruments. Once mastered, anoscopy is easy to perform and requires less than a minute to make a routine check of the anal canal. It is safe, well tolerated, and can detect 99% of anal pathology. Variation in anatomy or marked obesity may make the examination more difficult. Anal strictures and severe inflammation may create additional patient discomfort. Since anoscopes are available in various diameters; several different sizes

**TABLE 2.** Specific lesions detected

|    | Hemorrhoids <sup>a</sup> |    |    |    | Fissure | Fistula | Squamous papillomas |
|----|--------------------------|----|----|----|---------|---------|---------------------|
|    | 1+                       | 2+ | 3+ | 4+ |         |         |                     |
| A  | 49                       | 32 | 11 | 5  | 1       | 0       | 1                   |
| SW | 47                       | 23 | 4  | 3  | 0       | 0       | 1                   |
| RF | 26                       | 21 | 4  | 1  | 0       | 1       | 1                   |

<sup>a</sup> Hemorrhoid grade: 1+ = internal, not prolapsed; 2+ = internal, prolapsed but spontaneously reduced; 3+ = prolapsed internal, reducible; 4+ = prolapsed internal, nonreducible.

A, Anoscopy; SW, straight withdrawal; RF, retroflexion.

should be available to permit a satisfactory examination. The anoscope used in our study is a disposable type and costs \$0.75. With the continued high prevalence of common anal disorders such as hemorrhoids and the greatly increasing incidence of infectious disease and anal trauma, the gastroenterologist must learn to use the anoscope in a routine manner for anoscopy is the procedure of choice for detecting perianal pathology.

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