Proctosigmoidoscopy in Asymptomatic Men: A 24-Month Study

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An article appeared in CA: A Cancer Journal for Clinicians (Corman, M.L.; Coller, J.A., and Videnheimer, M.C.: Proctosigmoidoscopy—Age Criteria for Examination in the Asymptomatic Patient. Ca 25:286-290, 1975) in which it was suggested that the age criteria for routine proctosigmoidoscopy be reconsidered and that the initial proctosigmoidoscopic examination be performed at age 50, with repeat examinations at two-year intervals.

To test the validity of this suggestion and possibly attain more flexible criteria, a study was undertaken to collect information in a similar group of patients.

The Life Extension Institute, as part of its service to the public, maintains a program for periodic health examinations. Patients come primarily from the staffs of banks, business firms, government agencies and corporations. Many of these individuals have private physicians, but accept this annual screening examination as a benefit of their employment.

These patients are generally symptom-free and many are resistant to, or critical of, the proctosigmoidoscopic examination. Therefore, we undertook a study at the Life Extension Institute to determine the incidence of pathology (specifically, of polyps) found by proctosigmoidoscopic examination, and to weigh the findings against the general resistance, on the part of patients and some physicians, to having this examination performed on a routine or screening basis.

We also sought to correlate these findings with age: those over age 50 (a criterion used at the Lahey Clinic and possibly elsewhere) as compared with those under 50; and age groups according to decade of life. The study period covers 24 months—May 1, 1975 through April 30, 1977.

Methods

6,104 symptom-free males ranging in age from the twenties through the eighties had proctosigmoidoscopy as part of their routine physical examinations. Some of these patients were under treatment, at the time of the examination, for conditions other than bowel dysfunction; none displayed gastrointestinal symptoms. 2,753 of the patients were over 50 years of age, while 3,351 were under 50.

All of the examinations were performed by the same physician, a surgeon experienced in the use of the proctosigmoidoscope and having long and extensive experience in general, colon and rectal surgery. Having one examiner perform all of the examinations would seem to mini-

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mize variations in estimating position and size of lesions.

For some patients this was an initial proctosigmoidoscopic examination. Others had had proctosigmoidoscopy previously and some of these had had a finding of polyps on previous examination.

A detailed gastrointestinal and urinary tract history, including the following items, was elicited from each patient:

- Change in bowel habits.
- Bleeding from the rectum.
- Significant diarrhea, in the absence of unusual stress, such as traveling.
- Personal and family history of inflammatory bowel disease, such as colitis, ileitis and diverticulitis.
- Personal and family history of any other digestive tract disease, such as polyposis.
- Previous polyps.
- Unusual flatulence.
- Previous abdominal surgery.
- Significant family history of cancer.
- Abdominal cramps.
- Urinary tract dysfunction: change in urinary pattern, nocturia, frequency, dribbling, urgency, kidney stones, infection.

Results

General Occurrence

Of the 6,104 patients examined, rectal polyps were found in 431, or seven percent. Among patients with a finding of polyps, 100 had never before had proctosigmoidoscopy; 206 had had the examination previously but had been free of polyps in the past; and 125 had a prior history of polyps as elucidated by previous examinations.

Under-50 Group

Of the 3,351 patients examined who were under age 50, 146 had polyps, indicating an incidence of 4.4 percent for the under-50 age group as a whole. These patients comprised 34 percent of the total number of patients found to have polyps. For approximately one-third of this group (46 patients), this was an initial proctosigmoidoscopic examination. Sixty-eight (46 percent) had had the examination before but had never before had polyps, and 32 had a history of polyps (22 percent).

Over-50 Group

Of the 2,753 patients over 50, there were 285 patients who were found to have polyps, constituting 66 percent of the total with polyps. Ninety-three of these (32.6 percent) had a prior history of polyps, while 138 (48.5 percent) had previously had proctosigmoidoscopy but did not have a history of polyps. This was an initial examination in 54 (18.9 percent) who had a finding of polyps. These results are summarized in Tables 1 and 2.

Incidence by Age Decade

In males aged 20 to 29 years, four out of 176 were found to have polyps, representing an incidence of 2.3 percent. In other words, 44 patients were examined to find one polyp.

Among those aged 30 to 39, 1,116 were examined; polyps were discovered in 22 (2.1 percent), yielding one polyp for every 50.7 patients examined.

In those aged 40 to 49, 120 of 2,060 patients examined were positive for polyps. One polyp was found for every 17 patients examined, reflecting an incidence of 5.8 percent.

Of patients in the age group of 50 to 59 years, 187 were found to have polyps. 1,929 were examined, giving this group an incidence of 9.7 percent, or one polyp per 10.3 patients.

In males aged 60 to 69, 84 of the 713 examined had polyps, indicating an 11.8 percent incidence. This is equivalent to one polyp for every 8.4 patients examined.

There were 106 men examined in the 70 to 79 age decade, yielding 13 with polyps. This represents one in eight patients, or an incidence of 12.3 percent.

Tables 3, 4 and 5 illustrate these data.

One of the four patients over 80 years old had polyps, but the small number examined precludes drawing firm conclusions for this age group.
Recurrence Data

One hundred twenty-five patients of all ages discovered to have polyps had a history of polyps. This is 29 percent of the total found to have polyps, and it represents 37.7 percent of all those for whom this was a repeat examination. In addition, 25.5 percent of those with a recurrence of polyps were under age 50.

Discussion

There are three main arguments used against routine proctosigmoidoscopic examination as an annual screening procedure in patients below the age of 50:

• The incidence of primary carcinoma of the colon is relatively low in persons under the age of 50.

• Routine, annual proctosigmoidoscopy is not feasible for such a large segment of the population, in terms of time and manpower.

• Patients themselves are highly resistant to the procedure, for reasons of discomfort as well as aesthetic considerations.

The debate as to the rate of development of carcinoma of the rectum and colon from adenomatous polyps is unresolved. However, this author’s experience with diseases of the colon, spanning a period of more than 50 years, would suggest that one must respect the potentially dangerous character of these lesions. The benign polyp cannot be differentiated from one that is cancerous or potentially cancerous on a clinical basis; only microscopic confirmation is accurate.

The study reported here clearly indicates that the relative incidence of polyps in patients of all ages is sufficient to warrant a careful evaluation of our utilization of the proctosigmoidoscopic examination as a screening procedure. That 34 percent of the total number of men found to have polyps were under 50 years old — and that
46 percent of those found to have polyps on initial examination were under 50—certainly demands a closer look at the rigid practice of employing "cut-off" ages as a guide to establishing a screening policy. In fact, in this study the incidence in males between 20 and 29 years of age was slightly higher than in those 30 to 39 years old; allowing for the difference in the number examined in the two decade-groups (176 and 1,116, respectively), these results still call attention to the need for a more flexible approach to proctosigmoidoscopy.

A group that obviously cannot afford to be spared repeat examinations are those who have a history of polyps. This study reflects a significant recurrence rate (37.7 percent), with one-fourth of these patients falling in the under-50 age category.

Nearly half of the patients found to have polyps came from a population that had had proctosigmoidoscopy previously and had never before had a finding of polyps. This does point up the necessity for a re-evaluation of our current approach and for guarding against complacency.

In sum, it must be concluded that the most significant data from the study reported here concern the patients under 50 years of age. When fully one-third of patients with a finding of polyps are under age 50, in a sample of this size, careful scrutiny of existing philosophy is warranted.

Conclusions

One criterion in any health screening program lies in the detection of precancerous and early cancerous lesions. Proctosigmoidoscopic examination lends itself well to meeting this criterion for cancer of the colon and rectum. But this examination is more than a simple instrumentation procedure; therefore, identification of the high risk patient of any age is an essential element of making the best use of this examination.
If only those patients over 40 or 50 years of age are included in routine proctosigmoidoscopic examination, many lesions will go undetected, in this younger age group, until it is too late for the prevention or cure of cancer. The percentages of patients with polyps and with a history of polyps illustrate the need to place these individuals in a more aggressive screening program.

If manpower and economic considerations are to determine examination policy, then an initial proctosigmoidoscopic examination for all patients of any age should be performed. Those found to be at risk for colon and rectal cancer can be entered into a comprehensive screening program; those identified to be low risk patients can be maintained in a lower pro-
ment. Annual six-slide Hemoccult testing in those under 40 who are at low risk may have merit.

For those patients who are resistant to having proctosigmoidoscopy, a gentle but straightforward explanation of the benefits involved may be sufficient inducement.

It is emphasized that no single procedure or test is all-encompassing; rather, digital and proctosigmoidoscopic examination, Hemoccult testing, barium enema with air contrast and colonoscopy are all complementary. The importance of taking a thorough history cannot be emphasized enough. Moreover, a truly informative picture is more likely to be obtained through a verbal exchange than by a written "checklist."

It seems wise, based on current data, to incorporate therapeutic considerations into a screening program. As mentioned, these lesions should not be regarded lightly due to their potentially sinister character; furthermore, small polyps are often difficult to locate by a subsequent examiner.

(The Life Extension Institute is purely a screening facility and no treatment procedures are undertaken. Therefore, in this paper there has been no mention of the pathology of the lesions discovered in these patients.

No statistics are given for the diagnosis of cancer of the rectum in either gross lesions or polyps. Most examinees are returned to their own physician who directs the course of treatment. Accurate diagnosis and adequate follow-up information are not available. The response to follow-up letters sent three months after the examination has been 43 percent. This is sometimes a note from the examinee, a letter from the physician, or a response from the surgeon with or without a pathological report. Under these circumstances such statistics are not valid. We prefer to emphasize the preventive character of the program. The question is not how many cancers have been found but rather how many cancers have been prevented.)

In summary, the identification of risk patients—regardless of their ages—and their routine examination for presence of polyps would seem a more rational approach to the question of who should or should not have proctosigmoidoscopy than is our present practice of defining need simply according to age.