Methods of Bowel Preparation for Sigmoidoscopy

A Comparative Study

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INCREASED EMPHASIS on the preventive aspects of medicine, in recent years, has led to the adoption of proctosigmoidoscopy by the general practitioner and internist as an essential part of the patient's routine annual physical examination. Formerly the province of the specially trained gastroenterologist, proctologist, and surgeon, in the diagnostic study of symptoms such as rectal bleeding, diarrhea, and tenesmus, it is now widely utilized by the general physician as a screening procedure for early polyp and cancer detection. Estimates of the incidence of rectal and sigmoidal polyps found in routine examinations of asymptomatic individuals at cancer detection centers vary from 1.6 per cent to 17.2 per cent. Even young adults, in the 20- and 30-year age group, are a fruitful source of discoverable lesions, as shown by a recent report of a 1.6 per cent incidence of rectal polyps in a group of 500 asymptomatic males. Classifications of colonic cancer by site of origin have placed 60-80 per cent in the region of the rectum and rectosigmoid. Consequently, any improvement in technic is welcome which increases the physician's opportunity to uncover these lesions, so readily accessible to the sigmoidoscope.

Despite standardization of the instruments and technic for the procedure, opinions differ as to the need for preliminary cleansing of the bowel. Some authorities object to any type of preparatory irrigation which may wash away valuable clues, such as blood or pus, coming from above the reach of the sigmoidoscope or which may alter the natural physiological appearance of the mucosa. However, only the visualization of a definite gross pathological change is of diagnostic value in sigmoidoscopy. The detection of pathologic secretions arising from a higher level of the colon would still require additional radiologic and laboratory aids for precise diagnosis. The hyperemia and congestion

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produced by rectal enemas is no more than a theoretical objection, since it can rarely be mistaken for true inflammatory disease such as non-specific ulcerative colitis.

Our own experience in a gastrointestinal clinic, with large numbers of sigmoidoscopies performed without prior preparation, has been extremely poor, resulting in numerous unsatisfactory and incomplete examinations. Gross also concluded that only 1/3–1/2 of the sigmoidoscopies performed without preliminary colon irrigation could be considered satisfactory. Even small amounts of fecal material may completely conceal a polyp readily amenable to fulguration. Frequently, the necessary rescheduled appointments are missed. On the other hand, vigorous preparations, requiring strong preliminary purgatives and enemas, are neither practical nor advisable since they are irritating to the colon and are exhausting and dehydrating to the geriatric patient with cardiac and pulmonary disease. In many instances these patients live alone, and the necessary facilities and family assistance are not readily available. In attempting to administer enemas to themselves, with the usual, hard, rectal tip, they may lacerate or even perforate the rectal wall. Finally, a vigorous type of preparation, if successfully carried out, often induces a great deal of apprehension and a general state of uncooperativeness in the patient, which results in rectal spasm and interferes with the smooth performance of the examination.

These considerations have led to the practical need for a simple, acceptable, inexpensive but effective bowel evacuant for office or clinical use preparatory to sigmoidoscopy. With this purpose in mind, a study was designed and undertaken to compare the following 4 methods of preparation, with respect to their efficacy and degree of irritative change induced in the rectal mucosa:

1. Fifty per cent magnesium sulphate solution (50 gm./100 cc. water)
2. Fleet’s solution,* compounded in the same proportions as contained in the commercial plastic disposable squeeze bottle—that is, 16 gm. sodium biphosphate and 6 gm. of sodium phosphate in 4½ oz. of solution
3. Normal saline solution
4. Bisacodyl (Dulcolax),† a recently introduced contact laxative agent, administered in the form of tablets and suppositories (Included because of the recent favorable comment in clinical trials with this drug, and the obvious advantage of simplicity.)

No tabulation of pathologic findings is intended in this report.

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† Geigy Pharmaceuticals, Ardsley, N. Y.