Cancer of the Colon and Rectum

RANKIN and GRAHAM

SECOND EDITION

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CANCER
OF THE
COLON AND RECTUM

Its Diagnosis and Treatment

SECOND EDITION

BY

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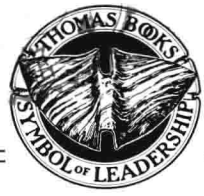

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PREFACE TO THE SECOND EDITION

Progress in treatment of cancer of the lower gastrointestinal tract by surgical methods has continued apace over the last quarter century with an accentuation upon certain features during the last decade which have added materially to it. Considering operation as a single step in a planned program, surgery for malignancy of the colon and rectum has approached a state of ideal standardization insofar as the preoperative and postoperative measures are concerned. However, it should be emphasized that individualization of cases still determines in a large measure mortality and morbidity statistics because judgment based upon long experience, which means the performance of surgical procedures in a large group of cases, unquestionably remains the deciding factor in success or failure in the vast majority of instances.

Now-a-days, because of better preparatory measures and the judicious utilization of chemotherapeutic agents and antibiotics, patients come to the operating room in a state more nearly approaching physiological equilibrium than hitherto. A longer preparatory period permits adequate decompression and cleansing and sterilization of the bowel. The use of whole blood, high caloric diet, attention to protein and electrolyte balance and the co-operative assistance of internists and cardiologists, particularly in this period, have immeasurably forwarded surgery in this field. It is because of these factors, as well as the fact that a larger number of well-trained surgeons are operating upon these cases, that mortality figures have been reduced in expert and trained hands to well below 5 per cent—one might almost say to below 3 per cent as an average among mature surgeons.

Moreover, the same processes operate to permit the utilization of one-stage procedures with satisfaction in a very high percentage of cases. It is our belief that practically all of the cancers of the right and transverse colon can be removed in one stage with immediate restoration of the gastrointestinal continuity either by open or aseptic anastomosis, as the surgeon is inclined. In the left colon we believe that obstructive resection is the operation of choice in the vast majority of cases, although the ideal operation of resection and immediate end to end anastomosis may be carried out in 25 to 30 per cent of the cases.

It is emphasized that when an anastomosis in this portion of the colon is undertaken, two criteria must be adhered to: (1) visualization of adequate blood supply to the cut ends of the bowel, and

(2) adequate decompression must have been accomplished prior to resection. Any anastomosis in the face of even moderate obstruction is very likely to result fatally. Whether one does an aseptic maneuver or not is a matter of little importance apparently, and the tendency to do more and more open operations is very properly wide spread. We have used an aseptic type of anastomosis over a three-bladed clamp for many years, but recently find ourselves employing the open type of procedure more and more.

The trend towards one-stage operations in the rectum is fully developed and we heartily concur in the utilization of the Miles procedure or some modification of it in the vast majority of rectal cancers. Gabriel has developed a satisfactory perineo-abdominal operation which many surgeons utilize advantageously. It must be recognized that there are rectal cancers in certain patients who have coexisting debilitating diseases and who are unable to withstand formidable procedures. This is a very small group, one must admit, but no one operation is sufficient to apply to all cases of malignancy anywhere in the body, and it is our belief that occasionally a Lockhart-Mummery operation is advisable or even a local operation such as that of Harrison-Cripps or of Quénu-Tuttle.

Within recent years there has been developed a not inconsiderable advocacy of the preservation of the rectal sphincter in rectal and rectal-sigmoidal cancers which are not closer to the sphincter muscle than three to four centimeters. For this type of operation or any of the recently rediscovered "pull through" procedures, we have small enthusiasm. Certainly this latter view is shared by a large group of widely experienced surgeons both here and abroad, and it will remain for time and especially end-results to prove the validity of the contention that as high a percentage of five years' freedom from recurrence will result from such operations. We emphasize that measurements by proctoscope are inaccurate and not satisfactory in locating a tumor's relationship to the pelvic peritoneum. There are great differences in the types of pelves in the human race, and certainly the peritoneal reflection differs widely in patients and for many reasons. It is our feeling that no cancer of the rectum which is below the peritoneal reflection should be submitted to a sphincter-saving operation. Here the abdominoperineal operation is the procedure of choice.

When a growth is somewhat above the peritoneal fold, anastomosis, if it may be done readily, certainly is a feasible procedure. It is no great feat to sew together two pieces of bowel low down in the pelvis. Usually, although one can not be sure of the blood supply collateral, circulation takes care of the rectal end and the anastomosis heals quickly. The crux of the situation, however, is

not the degree of technical skill involved in such a gymnastic feat but whether or not one may, by employing such a procedure, carry out the cardinal requisite of all cancer operations, namely removal of gland-bearing tissues in juxtaposition to the growth and sufficiently far away to insure the highest percentage of cure. That is the goal we believe may be accomplished more satisfactorily by the acceptance of a colostomy than otherwise, save only when the growth is definitely inside the peritoneum.

In the diagnosis of lesions of the lower gastrointestinal tract, progress has kept pace with the strides which have developed in preoperative and postoperative care as well as technical maneuvers of great magnitude. The diagnosis of all cancers of the rectum, it must be repeated time and again, can be made by: (1) digital examinations, (2) proctoscope examination, and (3) biopsy. The diagnosis of practically all lesions of the colon and their accurate localization is readily made by our roentgenological colleagues, provided only that they are permitted to examine the patient with a clean bowel and to introduce the medium per rectum. Despite long continued repetition of this necessary step, all surgeons are from time to time confronted with a case of acute intestinal obstruction produced by oral administration of the opaque medium thus superimposing an acute lethal condition, unless relieved, upon a malignancy and gravely compromising the individual's opportunity for cure. These lessons must be continually impressed upon the profession by the unfortunate surgeons who are compelled to deal with them.

We are indebted to the editors and publishers of *Surgery, Annals of Surgery, Surgery, Gynecology and Obstetrics, The New England Medical Journal*, and to W. B. Saunders Company for permission to reproduce charts and illustrations. Moreover, we wish to record our sincere thanks to the many surgeons who gave so generously of their time in answering our questionnaire and in preparing for us detailed statistical data. Particularly do we wish to thank Dr. R. W. Postlethwaite, Dr. Fred A. Coller, Dr. Alton Ochsner, Dr. William H. Daniel, Drs. R. K. Gilchrist and Vernon C. David, Dr. Thomas E. Jones, Dr. Robert S. Grinnell, Dr. I. S. Ravdin, Dr. Claude F. Dixon and his associates at The Mayo Clinic, and Dr. Richard B. Cattell, for their valuable contributions of unpublished material.

To Mr. Charles C Thomas, our publisher, and his son, Payne E. L. Thomas, we wish to express appreciation for their hearty co-operation.

FRED W. RANKIN

PREFACE TO THE FIRST EDITION

Cancer is the major lesion of the large bowel and rectum for which surgery is done. Because of this fact it has seemed desirable to incorporate in the volume our own experiences with cancer of the lower gastrointestinal tract, and to correlate and record the work of other surgeons interested in this field, both in this country and abroad.

Progress in diagnosis and treatment of cancer of the large bowel has been one of the outstanding accomplishments in surgery of the past quarter century. More efficient methods of diagnosis, more meticulous co-operative preparatory efforts, and a broadening experience in the application of special surgical maneuvers to these cases have resulted in a comfortable reduction of mortality and more satisfactory statistical data as to prognosis.

In 1932, with two of my former associates, I published a volume on diseases of the colon, rectum and anus. Because of the large amount of space required for discussion of other lesions, abbreviation of the discussion of cancer was necessarily practiced to some extent. Since that time there have been few fundamental changes made in the treatment of malignant disease in this location, yet an increasing experience has reluctantly forced an abandonment of some steps hitherto deemed most essential and has accentuated the value of other maneuvers. It is now commonly accepted that the co-operative management under the care of internists and surgeons has enormously forwarded the treatment of surgical diseases in many parts of the body. Certainly in dealing with cancer of the large bowel and rectum, one makes no exception but is convinced that one of the most potent factors of success is adequate preliminary decompression and rehabilitation. To these are added other safety factors which are discussed in detail in this volume.

One practice which we feel was in former years given undue prominence in the discussion of surgical attack on cancer of the colon and rectum, we have reluctantly abandoned, namely, the routine use of intraperitoneal vaccine. This has been done hesitatingly and we acknowledge with gratitude efforts of many earnest and scientific workers in an attempt to forward methods of increasing peritoneal resistance against contamination, for peritonitis is the greatest single lethal factor in the casualty list of operations for any intra-abdominal cancer. Suffice it to say that in our experience and with the methods which were being used in our

service, we were forced to the conclusion that intraperitoneal vaccination was not the huge factor in reduction of mortality that we once felt it to be.

Along with this deletion in routine management of colonic and rectal lesions, there have been many additions to the preoperative care which have seemed to influence noticeably not only the prognosis, but likewise the immediate satisfaction of both patient and surgeon. These we have attempted to describe and illustrate as clearly as possible.

Accompanying the progress in diagnosis and offensive maneuvers against cancer of the lower gastrointestinal tract, great strides forward have necessarily been made in the technic of the roentgen-ray. Roentgenoscopic examinations of the large bowel are now considered to be as accurate and efficient as those done for lesions in other parts of the body, and assisted by palpatory manipulation, permit accurate localization and recognition of the pathologic type in more than 95 per cent of the lesions of this segment. The great efficiency of the radiologist in the accurate localization and recognition of disease of the colon has been uniformly progressive and has made us rely more and more upon his interpretations. These advances have been of inestimable value and it is a pleasure to acknowledge the surgeon's debt to his radiologic confrere.

It is a great pleasure to thank Dr. Fred M. Hodges for the contribution of a chapter on radiotherapy. Dr. Hodges, whose observations during years of experience and research have rendered him especially capable of expressing definite conclusions, takes a very conservative view of radiotherapy and discusses its advantages and disadvantages from the standpoint of palliation and cure in an authoritative manner.

Dr. A. C. Broders, so eminently known for his work in pathology, has graciously contributed photomicrographs illustrating the four grades of his classification. We can affirm in this connection that one of the factors which influences us most in the selection of the type of operation for individual cases is the knowledge of the grade of growth. In this problem Broders' index of malignancy is a constant source of help.

To Mr. W. B. Gabriel, of London, we most gratefully acknowledge indebtedness for materials furnished from a volume of his on this same subject which is now in publication. The sound, constructive thought which runs through the writings of British surgeons on cancer therapy is forcefully evident in the lucid descriptions and timely suggestions gleaned from the experiences of Mr. Gabriel.

In discussing the anatomy and physiology of the large bowel

and rectum, some of the most important considerations involve the blood supply. Some years ago a former associate of mine, Dr. J. A. Steward, did a most excellent piece of original work on the blood supply of the lower gastrointestinal tract, and from his very conclusive experiences and observations many practical and useful applications have resulted. This work has been drawn on in no small measure in this book, feeling as we do that our knowledge of the vascular patterns of the large bowel and rectum has been materially increased by his efforts.

We also take cognizance of the heightened value which the clear and graphic illustrations of the artist, Miss Dorothy Booth, have lent the manuscript. Likewise, it is a pleasure to acknowledge the valuable work of Miss Kate Lee McLeod whose untiring efforts and ardent interest in the preparation of the manuscript have aided materially in its publication.

During the past five years relatively few changes in technic of resection of segments of the large bowel or the rectum itself have been introduced, but two very definite variations have been used and found to be exceedingly desirable. The first one relates to the accomplishment of the obstructive resection for cancer of the middle and left colon. We are still firmly convinced that one does a more radical procedure and removes wider areas of mesentery and gland-bearing tissues if there is no attempt at a primary re-establishment of the gastrointestinal continuity. Likewise, we have felt that the obstructive resection continues to accomplish a radical maneuver without losing too much time in convalescence. Recently it has been my plan to routinely accompany this type of extirpative procedure by a complementary cecostomy. The desirability of this will immediately evidence itself to anyone adding this further step to his operative maneuver, and the ease and simplicity of making a cecostomy adds little to the surgical risk.

In dealing with cancer of the rectum we have more and more abandoned for the sturdy or average risks, all operative maneuvers in favor of the one-stage combined abdominoperineal resection, and in about one-third of the cases, especially the bad risks, the continued use with satisfaction of the graded procedure of Lockhart-Mummery, colostomy and posterior excision. These changes are described and illustrated in full and we feel that the arguments supporting them warrant their acceptance in the surgery of this field.

A careful study of statistical data representing the ultimate end-results by the different maneuvers and in the hands of both American and British surgeons is incorporated in this volume, and we think it demonstrates beyond peradventure a progress in deal-

ing with cancer of the lower gastrointestinal tract, which is encouraging. Again, we acknowledge the great debt which our foreign colleagues, interested in surgery of the colon, have placed upon us in permitting the publication of the outcome of their efforts.

We wish also to make grateful acknowledgment for the use of materials and pictures to the editors and publishers of *Surgery, Gynecology and Obstetrics, Annals of Surgery,* the *Journal of the Southern Medical Association,* the *British Journal Surgery,* and to W. B. Saunders Company, and H. K. Lewis & Company, Ltd. Finally, we wish to record our sincere thanks to Mr. Charles C Thomas, our publisher, for his hearty co-operation and constructive suggestions.

Emboldened to record our own work and the work of others in a special field of surgical endeavor, it will be sufficient gratification and reward if this volume succeeds in creating constructive thought and criticism which will further forward efforts toward both cure and palliation of a lamentable malady.

FRED W. RANKIN

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FRED W. RANKIN, M.D. AND A. STEPHENS GRAHAM, M.D.

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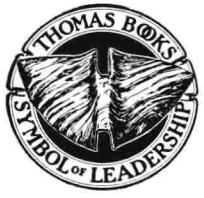

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