THE MANAGEMENT OF ABDOMINAL OPERATIONS

Edited by
RODNEY MAINGOT

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OF
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THE MANAGEMENT
OF
ABDOMINAL OPERATIONS

DEDICATION

This book is dedicated

to

The Right Honourable

THE LORD WEBB-JOHNSON

K.C.V.O., C.B.E., D.S.O., T.D., F.R.C.S.,
F.R.C.S.E., F.R.C.S.I., F.A.C.S., F.R.A.C.S.

Surgeon to Her Majesty Queen Mary. President of the Royal Society of Medicine. Consulting Surgeon to the Middlesex Hospital. Past President of the Royal College of Surgeons of England.

With affection, esteem and gratitude for his unremitting efforts and service to the medical profession as a whole and to his surgical colleagues in particular, and in recognition of his own eminence as a surgeon, his great gifts as an administrator and his endearing personal qualities.

PREFACE

THIS book is intended to deal with the practical aspects of abdominal surgery.

It has been written especially for post-graduates, for senior resident medical and surgical officers, for Fellowship candidates requiring more precise instruction in the details of the care of patients suffering from destructive lesions of the abdominal viscera, and for the general surgeon and those who are desirous of keeping abreast with the developments in this field.

As a certain basic knowledge of medicine and surgery has been assumed, opportunity has been afforded to devote more space to a description of special methods of investigation, to details regarding the management of patients before, during and after operation, and to a consideration of some of the more outstanding and increasingly significant medical aspects of abdominal surgery.

It has been no easy task to compress into one volume all the recent and accepted advances that have been made in this vast and ever-expanding subject.

I hope that the title, *The Management of Abdominal Operations*, adequately explains its scope. In The English Universal Dictionary the word *management* is defined as " Artful, ingenious, methods or treatment ".

If the reader will refer to the list of Contents he will appreciate the diversity of subjects which have been discussed. It might have been possible to add other subject-matter, as the boundaries of this important speciality are seemingly unlimited ; but I venture to maintain that none of the articles could have been omitted without just censure.

The main features include :

(1) A wide variety of contributions written in a practical and straightforward manner by eminent authorities, each a recognised specialist in his own subject.

(2) A carefully selected number of illustrations to illuminate the text. Many of the drawings are by well-known medical artists. These drawings include pathological specimens, apparatus, and the essential steps of many abdominal operations. X-ray pictures have been accurately reproduced.

(3) Detailed schemes of Pre-operative and Post-operative Treatment. Whilst emphasis has been placed on pre-operative and post-operative therapy, the technique of abdominal operations has not been neglected. As the mortality rate and the morbidity rate of all operations have been greatly reduced during recent years, it seemed fitting to stress the factors responsible for this desirable state of affairs. The following subjects have

therefore received the attention they rightly deserve: anaesthesia; water balance; nutrition in surgical patients; blood transfusion; venous thrombosis; pulmonary complications; the use of chemotherapeutic and antibiotic drugs; the rôle of vitamins; shock; the conditions affecting the operative risk; the methods employed of preventing or of combating lethal or troublesome post-operative complications; and the choice of operation for the individual patient and the appraisal and selection of the patient for operation. Elective procedures and emergency operations are discussed under "Regional Considerations". The difficulties and dangers inherent in all abdominal operations, as well as the precautions that are necessary during the conduct of some of the more complex procedures, are fully stressed.

In a work of this nature, dealing as it does with such a large number of subjects, many of which are closely related, it is impossible to avoid a certain degree of repetition, overlapping, dogmatic statements, lack of balance and even difference of opinion. The contributors have been given a free hand with their individual sections. A certain latitude in style and expression is stimulating. Extravagant pruning of an article may leave it dull or lifeless. To the thoughtful surgeon the occasional diversity of opinion expressed may be helpful by encouraging a closer study of such subjects to enable him to form his own conclusions. Dogmatism in the teaching of Medicine is unpleasing, but when it is backed by authority and experience it is often didactic, impelling or even pardonable.

To the best of my ability I have endeavoured to ensure that by the use of capital letters proprietary drugs are recognised as such, but if through inadvertance or ignorance I have failed to acknowledge any of these valuable therapeutic preparations, I tender my sincere regrets to their makers.

In my task as editor I have been fortunate in the willing and invaluable help I have received from so many of my friends and colleagues, not only in Great Britain but also in America.

This book is dedicated with esteem and affection to Lord Webb-Johnson for his inestimable services to the medical profession and for the help and guidance he has so generously bestowed upon me at all times.

I tender my most grateful thanks to the contributors for their loyal co-operation and for the unstinted efforts they have put forward to make their individual articles a success; to the many authors and publishers who have allowed quotations to be made from their writings and, in some instances, to adapt or reproduce certain illustrations or tables, the acknowledgements of which I hope are duly mentioned in the captions, text or references; to the various artists who have devoted much time and skill in the production of many excellent illustrations; to the surgeons in this country and abroad who have so kindly extended to me the

privilege of witnessing their work ; and to the publishers for their kindness, encouragement, constructive criticisms, and for overcoming, in these days of stress and anxiety, every obstacle in order that success might be achieved.

My warmest thanks are also due to my secretary, Miss Milward Smith, for typing my manuscripts, for correcting all the proofs with me, and for her untiring efforts and support during our joint labours.

My debt of gratitude is likewise due to Mr. E. Wynne Thomas, a literary critic of repute, for helping me, after the stern routine of the day's toil, with all the 47 chapters that were submitted by 33 critical physicians and surgeons.

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PART II REGIONAL CONSIDERATIONS

THE MANAGEMENT OF ABDOMINAL OPERATIONS

CHAPTER 1

CONDITIONS AFFECTING THE OPERATIVE RISK FOR ABDOMINAL CASES

F. AVERY JONES

In assessing the operative risk, not only must the presence of medical complications be considered but also the urgency of the operation. Urgent operation may be imperative as a life-saving measure and additional hazards from associated medical diseases may have to be accepted. Alternatively, an operation may be essential but with less urgency, when a few days may be allowed for improving the patient's general condition and decreasing the hazards from the medical complications. Often the operation is strictly elective, and whether or not it be performed will depend on an accurate assessment of the risks in relation to the possible benefits to the patient.

The hazards of abdominal surgery have greatly decreased in recent years and the improvement may be credited to better anaesthesia, antibiotics, increasing technical skill of the surgeon and the better team-work of the medical staff. It has been said that the surgeon must be a physician who operates, but today this is not enough. To get the best results demands a team of physician, surgeon, anaesthetist and ward sister working well together.

The sharp distinction between medicine and surgery should no longer exist. The physician can assist not only in diagnosis, but also in the post-operative care, by maintaining a special interest in the fluid balance and the respiratory system. He can make important contributions to the management of the difficult case, for the complexities of disturbed electrolyte balance today need the same concentrated attention by the physician as the surgeon gives to the technical performance of the operation.

The relation of the physician to the anaesthetist must be clearly appreciated. It is no longer the physician's responsibility to say whether or not a patient is fit for an anaesthetic. It is his responsibility to define the existing complications and to discuss them with the surgeon and the

anaesthetist. The rapid improvement in anaesthetic techniques means that the anaesthetist is able to accept far greater hazards than previously, and he alone can best assess the limit of his ability. The final decision to operate, of course, must rest with the surgeon.

This team-work is particularly valuable in dealing with the common recurring problems, such as surgery for peptic ulcer, but there is little doubt that a closer liaison could well be established in many centres in relation to other abdominal problems.

The assessment of operative risk by the clinician remains within the ambit of medical art rather than of medical science. Although studies have been made in the past, the introduction of the antibiotics and the great advances in anaesthesia necessitate a scientific re-orientation of the risks relating to associated medical complications.

The subject will be discussed with a perspective of the relative incidence of problems which face the physician or surgeon who must weigh the risks of the operation against the benefit to the patient. The common problems relate to morale, age, nutrition, cardiac complications, anaemia, respiratory efficiency, and occasionally to the problem of an associated disease process, e.g. diabetes.

Morale of the Patient

Even in these days of rapid scientific advancement, one of the most important essentials of abdominal surgery is the good morale of the patient. Major surgery for those who have no will to live is a form of euthanasia, but fortunately this is an infrequent situation. Of greater practical importance is the necessity to recognise the nervous, tensed-up individuals. The problem is not with those who frankly confess to being nervous, but with those whose personality is such that they cannot, for fear of losing face, reveal their fears. They may develop a nervous tension, both before and after operation, which is difficult for the more stoical members of the community to appreciate and to recognise. The good ward sister is of the greatest help in recognising these patients, who may appear quite calm to the visiting medical staff. It is of great practical importance to be able to pick out such patients, for they are particularly liable to post-operative complications, such as abdominal distension, acute dilatation of the stomach, paralytic ileus, faecal impaction, retention of urine and respiratory complications.

The mechanism is easy to envisage : the over-reaction to post-operative pain prevents adequate breathing and coughing or the use of the bed-pan, and the abdominal distension is probably largely related to nervous aerophagy.

How can one best assist these tensed-up patients? The essentials are

the inspiring of confidence and great attention to detail by the nursing and medical staffs. The patient needs a leisurely interview with a member of the medical staff who can tactfully anticipate his fears and explain the general post-operative routine. The type of anaesthetic to be used should be discussed and the patient generally reassured. This will need following-up with adequate sedation, particularly at night, and also by a " pep talk " from the ward sister, who will discuss breathing exercises. Of great assistance, also, is the experience of others in the ward who are convalescent.

After operation special attention is needed. As soon as possible after the patient has recovered from the anaesthetic, the medical staff should make a point of telling the patient that the operation was successful. In cases of inoperable carcinoma some suitable encouragement should be given. Personal supervision by the ward sister with special reference to correct breathing is invaluable. The practice of sending elective medical patients to the theatre and then back to a surgical ward is one which cannot be condemned too strongly ; the patient at a time of crisis needs to be surrounded by those doctors and nurses in whom he has gained confidence, and without that confidence the nervous and sensitive man may easily develop a vicious spiral of complications.

Such anxious, tensed-up patients are, fortunately, in a minority. For most patients, the reputation of the surgeon and of the hospital, the personality of the ward sister, together with his own natural level-headedness, ensure a reasonable mental outlook and enable adequate co-operation to be given. It is possible, however, that there is a higher proportion of these inwardly nervous individuals among those suffering from gastric and duodenal ulcers than from other abdominal conditions.

One of the most distressing post-operative complications is abdominal distension. Many aetiological factors may contribute towards it, but peritonitis has become a less frequent cause since the introduction of chemotherapy and antibiotics. Clinical impression suggests that air-swallowing in nervous or specially susceptible individuals plays a big rôle in these cases, and this will be discussed more fully later.

Age

The patient's age is an unreliable factor as a guide in estimating operative risk, but nevertheless there is undoubtedly a substantial increase in risk in patients over 70, and particularly over 75, when subjected to major abdominal operations. There is, too, a wide variation between the true and the apparent age of individuals ; some may appear ten or even fifteen years older or younger than their documentary age, and the surgeon must be guided more by clinical judgment than by the age

recorded in the notes. In favourable circumstances, major elective surgery should not be denied to those well over 80. In the last century, Sir James Paget noted: " years, indeed, taken alone are a very fallacious mode of reckoning age ; it is not the time but the quality of a man's past life we have to reckon. . . . The old people that are thin and dry and tough, clear-voiced and bright-eyed, with good stomachs, and strong wills, muscular and active, are not bad ; they bear all but the largest operations very well. But very bad are they who, looking somewhat like these, are feeble and soft-skinned, with little pulses, poor appetites and weak digestive power ; so they cannot, in an emergency, be well nourished."

The elderly need certain special attention to detail both before and after operation. Their knowledge of dietetics is rarely profound, and they are often faddy and practise self-imposed restrictions, particularly on protein foods, green vegetables and fruit. A preliminary period in hospital before operation is usually time well spent if every effort is made to augment their protein intake by means of fortified milk feeds as described later, in addition to extra protein in the meals. Extra vitamins B and C are particularly indicated and may be prescribed as discussed in Chapter 14.

Prolonged rest in bed is to be avoided, and whenever possible patients should be up and about for at least part of the day. Bed is a dangerous place for the elderly and favours post-operative broncho-pneumonia and pulmonary emboli. Smoking should be restricted, but not forbidden : just before an operation is no time to change the habits of a life-time, and it will do more harm than good to cut off the pipe after meals and have the patient restless and miserable. Purging before operation is strictly to be avoided, and an enema should be given only if the patient is constipated. The pre-operative dose of morphia should be restricted to 1/8 or 1/6 gr. at the most. More indeed is never needed, as Hardy, Wolff and Goodell (1940) have shown that the maximum analgesic effect can be obtained with 1/6 gr. and that larger doses only depress respiration.

The choice of anaesthetic is particularly important ; local injection with the patient sedated with barbiturates is probably the safest. When local anaesthetics are used, no adrenaline should be added, as this may precipitate coronary thrombosis in the elderly. High spinals are badly tolerated. Gas-oxygen is particularly dangerous, as any degree of cyanosis is badly tolerated, not only immediately, but also tends to give rise to risk of damage to basal ganglia with subsequent Parkinsonism. Light cyclopropane is almost certainly the safest anaesthetic agent. Routine intubation is to be avoided ; when the patient is lightly under, this causes too much bronchial spasm and may contribute towards post-operative pulmonary collapse. Post-operational intravenous fluids are best avoided, and when possible extra fluid should be given *per rectum*