GASTROENTEROLOGY

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PREFACE

This book provides the essentials of gastroenterology in a single volume that is nevertheless comprehensive and well documented. It should be of value to internists, general practitioners, general surgeons, and residents. Its orientation is clinical. Symptoms and signs are carefully analyzed in relation to pathologic anatomy, physiology, and biochemistry so as to establish a rationale for selection of diagnostic tests and therapy.

The scope of gastroenterology and the assessment of symptoms and signs in patients with gastroenterologic problems are discussed in the first section. This is followed by chapters on psychologic factors in relation to the diagnosis and management of gastroenterologic diseases, on nutrition and metabolism, and on the effects of drugs and antibiotics on the gastrointestinal tract. The descriptions of diseases are arranged by organ. In each chapter applied anatomy, physiology, biochemistry and pathology are considered in relation to the investigative procedures and to the descriptions of the clinical manifestations of disease. Experience in various centers is analyzed, and recommendations for treatment are provided. Next, there is a discussion on general topics, i.e., acute abdominal conditions, bowel obstruction, jaundice, allergy, food poisoning, and hernia. In the last section the interrelationship between gastrointestinal disease and disease of the cardiovascular, neurologic, endocrine, and genitourinary systems and of the skin is considered, and there are chapters on disorders of the blood, and on leukemia and lymphoma in relation to the gastrointestinal tract. Numerous illustrations and extensive bibliographies are provided.

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A. Bogoch

CONTENTS

SECTION ONE

Clinical manifestations of gastrointestinal disease

Chapter 1

INTRODUCTION

K. J. R. Wightman

The diagnostic process in gastroenterology, as elsewhere, is carried out by accumulating data which must be interpreted, first in terms of altered function and then in terms of the cause of these alterations. As Engle has pointed out, if we are to learn how to take the best advantage of modern scientific advances, we need to have a clear understanding of the meaning and usefulness of our diagnostic terminology and what the process of diagnosis consists of. The purpose of diagnosis is to provide a rational framework for treatment and a basis for prognosis. In its widest sense it should take cognizance of the makeup of the patient and his environment, as well as the causal factors in his illness, the pathologic and functional changes produced in the tissues, and the defense mechanisms that can be mobilized. This involves us in the application of generalizations about disease to the particular patient. There are wide variations in the precision of our concepts about different diseases, as well as in the degree to which the response of different patients to any one of them can be predicted. Some of our diagnostic terms indicate a real understanding of the factors enumerated above, and occasionally we can identify the factors in individual patients that modify their response. All too often, however, the diagnosis merely represents a concatenation of signs and symptoms that seems to form some sort of coherent entity without explaining the causes or the mechanism involved. However, even at this level it may give us some idea of what to expect. There is a tendency to endow a disease with an almost physical existence and with a natural history of its own. Such a manner of thinking proves helpful in some circumstances, but it may delude one if it is carried too far or if it is allowed to obscure the individuality of the patient. These considerations should induce a degree of humility, but not of hopelessness. They indicate the framework within which we must work, for the time being at least. Hopefully, they may also indicate areas where progress can be expected in medicine and where the individual doctor can improve his skill.

To turn back to the patient, we will find that no adroitness of logic, imagination, or intuition can lead us anywhere without facts. The data must be obtained by inquiry, by physical examination, and by special investigation—radiologic, biochemical, psychologic, and so forth. Gastroenterology differs somewhat from other specialities in the degree to which its findings are concentrated in the patient's symptoms rather than in the physical examination. A good part of the competence of the gastroenterologist lies

in his ability to obtain an accurate history. This skill is one of the arts of medicine, which is a way of saying that it can only be learned by experience and cannot be codified into precise scientific patterns. It is time-consuming and often difficult. Dealing as it does with subjective experiences of the patient, communicated with varying degrees of accuracy and consistency, it is manifestly imprecise. Information obtained from the laboratory or from the radiology department seems to be more accurate and reliable so that one may be tempted to give it first place, to neglect the history and to give it little credence if it conflicts with the objective evidence. Furthermore, one is tempted to treat biochemical abnormalities rather than the clinical state of the patient.

While it is true that some conditions have an asymptomatic latent period during which biochemical or radiologic changes may point to an abnormal process before the patient becomes aware of it, the converse is also likely. For example, carcinoma of the esophagus may cause dysphagia long before radiologic changes have occurred. A postbulbar duodenal ulcer may cause symptoms but may be difficult to locate radiologically; tumors of the small intestine may cause distress but are also difficult to locate radiologically. Furthermore, symptoms of a particular condition do not point to the same aspect of disease that the investigation does. For example, a chronically scarred duodenal cap represents the end result of ulceration and will remain as a constant finding, but pain is a symptom associated with so-called clinical activity and occurs periodically. Hence, it is possible to see a scarred cap in a clinically asymptomatic patient. This merely indicates that both methods of assessment are necessary.

Progress can only be attained if one takes full advantage of all the available means of studying the patient and of perfecting one's art and validating it when feasible. One must also remember the necessity of making a diagnosis of the person who became ill—his constitution, his habitual reaction patterns, his psychologic makeup, his family background with its cultural and traditional concepts of illness, and the social factors involved. Not only is all this information necessary in the diagnostic survey, but the process by which it is obtained is a powerful therapeutic agent, paving the way for those other arts in medicine that have to do with making valid decisions on the basis of whatever evidence is available and with influencing the patient's behavior in therapy.

The first step is to demonstrate one's interest, sympathy and concern about the patient's problems, and to convince him that the steps to be taken are advisable and in his best interest. Rapport is usually best established by asking him to recount the story of his illness from the beginning and by allowing him to do so without interruption. Many questions will come to mind as the narrative unfolds, but these should usually be postponed. This may require a major effort of self-control on the part of the physician, but it is most important not to interrupt the flow of the patient's ideas. True, it may be necessary to exert some control over the conversation if it becomes too diffuse, but this, too, must be accomplished with ingenuity and tact. If the story turns out to be extremely complicated or to extend far back in time, it may be wise at this point to turn to a consideration of the past health of the patient, his family history, and the various aspects of his personal, occupational, and social situation. The same maneuver may be helpful if the patient seems reluctant to break down his habitual reserve about himself and gives a halting or disconnected account of his illness. Some way must be found to build up a momentum of communication. In a few instances this may occur only when the patient has been undressed and examined and the consultation is almost at an end. Be that as it may, one must learn to sense when the patient has told all he knows, and when he has not. Sometimes the whole story comes to light only after several interviews, either because of a slow access of confidence on the part of the patient or because of a slowly dawning realization of the information that is required.

The other problem is to attain a degree of precision in the description of symptoms which will make their interpretation possible. This requires the establishment of a vocabulary in common with the patient. You must make sure that the patient is speaking the same language as you are—that when he says he has "gas" in his abdomen, for example, he means that and not a sense of pressure that he *interprets* as being due to gas. One must be aware oneself of the different qualities of experience in the abdomen. Only by cross-checking and back-checking the information he gives you, can you feel sure that you have a valid and vivid picture of what his sensations really are.

Unusual difficulties may be encountered for a variety of reasons. In the first place, the patient may be unaccustomed to giving accurate descriptions of subjective sensations and may need to be taught how to do so. He can be asked to compare his feelings with those accompanying common experiences, which can be a point of reference for both the patient and the examiner. One must avoid phrasing one's questions in a way that suggests the answer you expect to hear or makes the patient feel that one answer must be "wrong." It may also be necessary to explain how important it is to obtain information of this sort if the patient shows signs of becoming irritable or impatient. On the other hand, a problem may arise because the patient has never *perceived* his symptoms in this kind of detail. He may have been aware of unusual discomfort, major or minor, transient or persistent, but this may be all he has really noticed about it. This situation can occur for various reasons. It may be a simple matter of lack of sophistication or experience of ill health. There are fortunate individuals who have always been more or less completely oblivious to the inner workings of their body and who have never suffered the ordinary discomforts which serve to acquaint

most normal people with the sensory language of the viscera. This is not simply a matter of a high pain threshold, although this, too, may be a factor. It may have its psychologic concomitants, but it often appears to be a purely physiologic difference, which may be recognized when one discusses the patient's past health with him. Conversely, old people often seem very stoical because they have had so many discomforts that they have trained themselves to disregard them. This may also be a matter of tradition or culture, as seen in the older generation American Indian or Chinese. It can be induced by fear, since the patient may have made his own diagnosis, consciously or unconsciously, and found it too horrible to contemplate.

An unusual awareness of visceral activity may be present in persons with a certain type of nervous system. This awareness can be cultivated by constant attention, such as that brought to bear by neurotic patients or those who have become anxious about their health. It is recognized that nervous stress alters functional mechanisms in the gastrointestinal tract, thus producing symptoms, but this perceptual aspect of the matter is probably an important factor as well. If some organic disease supervenes in such a patient, one may find it difficult to get a clear description of the symptoms because the "signal-to-noise ratio" is so low that the significant symptoms are drowned out by the chorus of meaningless ones and perhaps described in such emotionally charged or symbolic terms as to defy interpretation. This is one of the major pitfalls in diagnosis. Many a neurotic patient has discomfited her doctor by developing an abdominal lesion, diagnosed by someone else perhaps, after years of senseless symptoms. In retrospect, the syndrome can usually be recognized in shadowy outline against a confusing background.

One must also be prepared for the possibility that the patient will change his story. He must be allowed to contradict himself without reproach (even in the midst of a formal ward round), as long as the final story is nearer the truth than the first. This is a cross that hospital residents must learn to bear with fortitude and forbearance.

It is always important to remember that it is the patient who is under investigation and not his disease. The history of his illness must be supplemented by a systematic inquiry into other aspects of the function of his gastrointestinal tract and of all other systems (Table 1-1). The derangements of disease are partly anatomic and partly functional. It is by symptoms that the latter become apparent. The diseases that are primarily gastrointestinal may affect other parts of the body. Disease originating elsewhere may produce gastrointestinal derangement. In either case, treatment must be directed at the patient as a whole if it is to have any real impact.

After a varying length of time, one may be able to identify the patient's *chief complaint.* (This is not quite the same thing as the reason he came to the doctor, and both these questions should be answered.) The chief complaint is the main, or central, symptom; it is a symptom and not a diagnostic term. If the main symptom is part of a constellation of symptoms, which all come and go together, one should take note of this fact. Having identified it, one should then define it as clearly as possible by asking whatever questions are still necessary to fill in some such outline as this:

Onset
Quality
Severity
Constancy
Precipitating, aggravating, and alleviating factors

The *history of the present illness* is a detailed analysis of symptoms from their onset, with reference to their chronologic sequence, changes which may have occurred, new symptoms which have appeared, and treatment which has been given, up to the present time. Certain negative information may be worth noting—the absence of a symptom that one might expect to appear in the picture as it unfolds may be an arresting and important finding. Evolution of symptoms is of great importance as it helps to distinguish between different pathologic conditions which produce the same major symptom. For example, jaundice may be due to several causes, but the jaundice of hepatitis has a characteristic onset, with anorexia and nausea followed by an increase of jaundice over the next week or two and finally improvement. In contrast, the jaundice due to carcinoma in the periampullary region has an insidious onset progressing steadily with the concomitant development of pruritus and other signs of biliary obstruction.

The above outline can also be used as a guide for the description of symptoms other than the chief complaint. Finally, one must obtain an appraisal of the patient's present status in terms of degree of disability, his own interpretation of his illness, and as noted above, the reason for seeking medical attention at this particular point.

It is also wise to determine what has been going on in the patient's life in the period just before and during the span of his illness. This may become a biography, as noted below, in which one considers physical, social, economic, and psychologic events in parallel with the fluctuations in his state of health at the various epochs of his life. The pattern which emerges may be very illuminating to the patient, as well as to the doctor.

The *history of past illnesses* or, better, of *past health* tells one the general level at which this patient has been able to function, the illnesses he has had which may have paved the way for the present one, or the scars there may be that will modify his response. It will also bring out his attitude towards illness, the ease with which he is thrown off his stride, and the rapidity with which he can recover from specific ailments. The occur-

rence of bizarre illnesses which may never have been diagnosed, or of "rundown" periods of vague disability raises the question of functional illness or of metabolic disturbances, such as porphyria. An important sidelight is the amount of "doctoring" the patient has done or the attitude he has to his previous medical attendants.

One should not accept the patient's diagnosis of significant illnesses in the past without finding out what the symptoms and the circumstances were, as far as they can be recalled, and confirming the patient's impressions from hospital records and reports from the attending doctor. It may be worthwhile to review the pathologic sections. For example, it may make a good deal of difference whether an appendectomy was carried out because of a typical attack of acute appendicitis or for the relief of some sort of chronic or recurrent abdominal complaints. The patient will say that he has had appendicitis in either instance.

The *family history* may also provide clues about the patient's constitution, his susceptibility to certain types of illness, and his attitude to health matters. One is interested in the longevity of his forebears and their general state of health, as well as in a list of hereditable diseases or ones that may be transmitted within the family. This inquiry also gives one an opportunity to find out something about the psychologic atmosphere of the home in which he grew up, the remedies they had faith in, and any special family traditions.

The *personal history* is a record of the sort of life that the patient is living and has lived, with a view to revealing special stresses to which he has been exposed—physical, occupational, psychologic, etc.—together with his reaction patterns to them. It should include an account of his habits with respect to rest, exercise, smoking, drinking, and self-medication. One should try to find out what degree of satisfaction and success he has attained in the various aspects of his life. If a psychologic illness is suspected, this may be expanded into a biography that carries him from childhood through his schooldays to the present, with an account of the various jobs he has had and the reasons for changing. It should also cover the vicissitudes of his living conditions, his social and economic status, and his domestic arrangements. His relationships with parents, spouse, and children are important matters. One tries to discover whether he has any major worries or preoccupations and how deeply they are affecting him. As noted above, this biography may be ranged alongside his health biography in a way that may turn out to be very revealing.

At the end of all this, one is in a position to form an estimate of the patient's physical constitution and the derangements that have probably occurred with his present illness. One should also know what sort of person one is dealing with, not only by the story he tells, but also by the way he tells it. One should be able to estimate his attention span, intelligence, memory, clarity of thinking, and mental health. One should be able to predict the degree of his cooperation and self-control.

As noted above, the part of the examination relating to past, personal, and family history is sometimes carried out before the details of the history of the present illness are worked out. It may be easier to determine what details of the present complaint are most significant when one is armed with all this prior knowledge, and the channel of communication may be cleared considerably in the process.

It may appear that too much has been made of the psychologic aspect of things in this survey. Various estimates have been made of the incidence of illness of psychologic origin in general practice and in the practice of gastroenterology. One can safely assume that 30 to 50 percent of patients with gastroenterologic complaints fall into this category and that a further 25 percent suffer from illnesses that are greatly modified by psychologic factors. One of the greatest defects of modern medicine lies in the failure of internists and gastroenterologists to pay sufficient attention to this aspect of their patient and to deal with it sensibly. The time spent in a survey of this sort saves time in the long run. With increasing skill, it can be carried out more rapidly. Most consultants find that they are able to help more often by obtaining a clear history than in any other way. While there is no denying that they may be possessed of special skill and diagnostic acumen, still it must be recognized that history-taking is one of the *major* skills and that the time which the consultant is prepared to spend with the patient is the most precious commodity of all.

In a similar way, the physical examination of the patient must involve his whole body if errors are to be avoided. This must include an appraisal of his general state of health and nutrition, as well as an examination of each of the areas of the body. It is easy enough to persuade oneself that a gastroenterologist is not any more likely to pick up abnormal cardiac or neurologic findings, for example, than the physician who referred the patient. The atrophy of disuse can readily make this come to be true. However, in view of the fact that disease in almost any other part of the body can produce gastrointestinal derangements, the gastroenterologist should accept the responsibility for more than exonerating his own particular territory.

When all this has been accomplished, one has usually come to some conclusion as to the diagnostic possibility and is in a position to make intelligent use of the laboratory and the x-ray department. If no hypothesis whatever has occurred to one, it is generally more advantageous to spend further time talking to the patient than to redouble one's demands on the laboratory. In this connection, it should be noted that the best history is obtained when the patient is first seen. If one is somehow forced to begin with a cursory examination in the hope of following it up later, the end result is almost