SYMPTOMS AND SIGNS IN CLINICAL MEDICINE

AN INTRODUCTION TO MEDICAL DIAGNOSIS

BY

E. NOBLE CHAMBERLAIN, M.D., M.Sc., F.R.C.P.

Senior Lecturer in Medicine, University of Liverpool; Senior Physician, Royal Southern Hospital, Liverpool; Physician in Charge, Medical Unit, Sefton General Hospital, Liverpool.

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TO MY WIFE

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PREFACE TO THE SIXTH EDITION

In this Edition I have had the valuable co-operation of several friends and colleagues, notably Dr. Charles McKendrick, Dr. W. S. Sutton, Dr. R. R. Hughes, and Dr. Martin Hynes. They have given most helpful advice on the subject-matter in which they are particularly interested. My thanks are due to them, and also to Dr. Harold Tulloh who read the proofs.

The critics of the last Edition made suggestions which have been carefully considered and adopted when they did not modify the essential character and purpose of the book. I am grateful for the candid and helpful comments from these reviewers.

Most sections of the book have undergone some revision, and in several chapters, notably the preliminary ones and those dealing with the Cardio-vascular and Nervous Systems, fairly extensive changes have been made, more particularly with reference to the interpretation than the elicitation of symptoms and physical signs.

The opportunity has been taken to replace some of the older illustrations with newer ones, and certain additional photographs and coloured plates have been introduced.

It was inevitable with the constant advances in the ancillary sciences that rather more space would be devoted to such special examinations as those employed in the diagnosis of obscure blood diseases, and in the biochemical approach to endocrine dysfunction. Electro-encephalography has been slightly expanded. At the same time it is hoped that these incursions have not disturbed the balance of the book, which was, and still remains, primarily devoted to those methods of examination which rely upon the senses and the intelligence.

The diseases which were chosen in earlier Editions to illustrate symptoms and signs have sometimes become rare or sometimes so modified by treatment that they fail to demonstrate the signs. Some reselection of more suitable diseases has therefore been made but there has been no attempt to increase their number.

Once again I would like to record my appreciation of the help and courtesy which I have always had from the Publishers, who spare no effort to meet the wishes of the Author.

E. N. C.

Liverpool, 1956.

FROM THE PREFACE TO THE FIRST EDITION

WHEN the student first enters hospital he is initiated into the art of medicine, as distinct from the purer sciences of anatomy and physiology with which he has become familiar. He must learn to obtain from the patient an accurate history of his illness, and be able to appreciate the significance of his symptoms. He must master the technique of medical examination and of eliciting physical signs. The interpretation of these signs, and their co-relation with the symptoms, is the basis of diagnosis. It is the object of this book primarily to help the student in this difficult intermediary period in which he is first introduced to the practice of his art, and the practitioner who wishes to refresh his memory.

As the title implies, an account has been given of the common symptoms and physical signs of disease, but since his student days the author has felt that these are often wrongly described divorced from diagnosis. An attempt has been made, therefore, to take the student a stage further to the visualization of symptoms and signs as forming a clinical picture of some pathological process. In each chapter some of the commoner or more important diseases have been included to illustrate how symptoms and signs are pieced together in the jig-saw puzzle of diagnosis.

In most chapters brief mention has been made of those special methods of laboratory or instrumental investigations which in modern medicine are usually necessary for a full and accurate diagnosis. A rightful place of importance has been given to physical signs which are demonstrated by the use of the unaided senses, but when the special investigations, as occasionally happens, are of more value than the physical signs, this has been pointed out. The technique of these special investigations finds no place here, but those simple laboratory and instrumental procedures, such as lumbar punctures, blood-counts, urine examinations, and so forth, which are generally carried out in the ward or clinic room, have been gathered together in two separate chapters for ease of reference.

In writing this book many standard text-books and monographs have been consulted, and free acknowledgement is made to these sources, which are too numerous to be mentioned by name. In the hope of avoiding the undue influence of particular works, each chapter was written before any book was consulted. In the same way after each chapter had taken shape, certain of them were submitted to colleagues who had a special interest in the subject discussed.

E. NOBLE CHAMBERLAIN.

Liverpool,
March, 1936

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SYMPTOMS AND SIGNS IN CLINICAL MEDICINE

CHAPTER I

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INTRODUCTION

FOR the investigation of a medical case the student must develop a definite system of interrogation and examination, which should be carried out in a routine fashion to save time and to ensure that no important data are omitted. In time this routine system becomes a habit in his professional life, a habit which must be cultivated assiduously. No book can do more than assist in this : the habit can only come by constant practice in dealing with sick persons.

The ultimate object of interrogation and examination is *diagnosis* (Gr. διά, through + γνῶσις, knowledge). Without diagnosis there can be no satisfactory *prognosis* (Gr. πρό, before + γνωσις, knowledge), or treatment, and the diagnosis depends on a well-balanced judgement of all the facts relating to the case.

These facts fall into four groups : (1) The present symptoms ; (2) The antecedent history, personal and familial ; (3) The physical signs ; (4) The special investigations. Sometimes the diagnosis depends chiefly on one of these, but all must be considered in conjunction before a diagnosis is made.

The Symptoms.—These are *subjective* disturbances which cause disease—that is, cause the patient to appreciate that he is not well. An account of them is obtained by taking a history of the present condition.

The Antecedent History.—This reveals facts in the patient's personal life or in those of his near relatives which may have a direct bearing on the problem under consideration.

The Physical Signs.—These are *objective* marks of disease appreciated by the trained observer using his senses, generally unaided, though the aid of the stethoscope is usually allowed under this definition.

The Special Investigations.—This term is used in the present book to include various accessory methods of examination requiring special apparatus, e.g., biochemistry, radiography, microscopy, and electrocardiography. These special investigations are now an integral part of many

medical examinations, and in some cases diagnosis is impossible without them. They are described in Chapters XII–XIV.

When the facts of the case have been gathered together, the final stage is reached, that of *diagnosis*, a word implying knowledge of the organs or tissues affected by disease, and of the pathological changes which have taken place in them.

A complete diagnosis includes an accurate idea of the anatomical localization of the disease, and an understanding of the type of pathological process which is at work. It should also give an impression of the activity of the disease, whether this is stationary as in old healed lesions, or progressing slowly or rapidly. These facts cannot always be elicited, but an attempt must be made to make the diagnosis as comprehensive as possible, both in anatomical, pathological, and aetiological detail.

In a valvular lesion of the heart, for example, not only must the valve affected be known, but whether it is damaged by rheumatic, syphilitic, or other infection, and whether this infection is actively present, or past and healed. Similarly recognition of a lesion such as paraplegia must be amplified when possible by indicating the cause, e.g., compression paraplegia due to tumour which slowly produces its effects, or a sudden paraplegia the result of spinal cord hæmorrhage or injury.

It is also important to recognize that structural changes may exist without functional derangement, and vice versa. Thus certain congenital abnormalities of the heart are consistent with normal function ; whilst in some abnormal rhythms of the heart, function may be disturbed without any gross underlying structural change.

From the beginning it is essential for the student to train himself to piece together the evidence he has accumulated by taking the history and making a physical examination, with the object of establishing a diagnosis. Only in this way will he avoid that indecisive mental state in which the multiplicity of facts prevents him from appreciating their significance.

Errors will be many at first, and indeed for most of us continue to be made throughout our professional life, but they will become fewer as judgement matures and experience ripens.

Though the necessity for an early attempt at diagnosis has been emphasized here, it is equally important to stress the necessity for that receptivity of mind which allows the physician to reconsider his diagnosis, should fresh evidence be forthcoming.

In subsequent chapters of this book an attempt has been made to describe briefly the symptoms and physical signs of disease, with illustrative examples in each system of the way in which they are employed to make a diagnosis. Variations from this general scheme have been necessary occasionally, notably in Chapter II, dealing with the external manifestations of disease, and in the chapter on pyrexia.

In the present chapter the important subjects of history-taking and the physical examination of the patient are discussed.

THE PATIENT'S SYMPTOMS AND HISTORY

To take a good history of a case requires as much or more skill than the subsequent physical examination, and accuracy and patience are usually well rewarded by the diagnostic value of the data obtained.

Difficulties arise when the patient's mental status is low and he is unable to grasp the meaning of the questions, but experience soon teaches the interrogator to formulate his questions in a manner suitable to each patient's intelligence.

Likewise it is necessary to learn how to appraise the value of the symptoms or details of personal or family life given by the patient, who on the one hand may wish to conceal or minimize the significance of these, or, on the other, to exaggerate them. We must always be tolerant towards the natural reserve which certain persons show when details of their personal or family life are required. To us these details may appear commonplace, but to the patient they are intimate and therefore not always given without reluctance to a stranger. It is wise to ask, firstly, questions which will cause no embarrassment, leaving questions of a more delicate nature until the patient's confidence has been secured.

The individual physician, in the course of practice, usually develops a particular scheme of interrogation and examination which to him seems most appropriate. Most schemes follow similar lines and the following embodies the general principles involved.

The Complaint: The Patient's Description of his Present Symptoms.—It is most advisable to allow the patient to *express his symptoms in his own words*. The intelligent patient may, in a few minutes, give a history pointing conclusively to the system or systems involved. Others, of less education, are unable to describe the nature of their complaint without help from the examiner in the form of simple questions.

One patient may complain of a constricting pain in the upper part of the chest, which spreads to the left arm, and occurs during effort, thus providing by the history alone strong diagnostic evidence of the cardiac origin of his pain. Another with "pain in the stomach" may be unable to describe its character until a choice of such terms as griping, cutting, burning, sharp, etc., is offered to him, and is uncertain as to its position until asked to point to any places where it has been felt. It is sometimes necessary to keep loquacious patients to the essential story by interruption with pertinent questions, but impatience on the part of the examiner may cause valuable information to be suppressed, and will certainly destroy the patient's confidence.

The *complaint* should be stated briefly on the case sheet, as it is to be amplified by the subsequent history of the present condition.

History of the Development of the Symptoms: Amplification of the Patient's Description of his Complaint.—Exceptionally, the patient gives an adequate account of his symptoms. More often they are poorly described owing chiefly to his natural lack of technical knowledge

and inability to express himself adequately. It therefore becomes the duty of the examiner to put such questions as will bring out a fuller description of individual symptoms. In doing so care must be taken *not to put 'leading questions'*, questions which suggest the nature of the answer. The student may observe that an experienced clinician will sometimes disregard this rule. He may suspect that the patient has accidentally or intentionally omitted reference to an important symptom and a direct question will then be necessary, but the patient's answer must be assessed with correspondingly greater care.

The following general points should be noted :—

1. *The Duration of the Symptom.*—If more than one, the duration of each should be recorded. Example : Breathlessness, 6 months ; palpitation, 3 months ; swelling of the feet, 3 days. Such a group of symptoms is common in heart disease progressing to failure.

It should also be recorded whether the symptoms have been present continuously since their onset ; or, if there have been *intervals of freedom*, the length of these.

2. *The Mode of Onset.*—Did the symptoms come on suddenly or gradually ? If the illness consists of a series of 'attacks', the mode of onset, course, duration, mode of decline, and after-effects of each should be compared. The mode of onset and duration of symptoms are of great importance in indicating the causative agent of the disease.

A sudden paralysis of the legs (paraplegia) has quite a different significance than a gradual loss of power. Though both may indicate an interruption of function in the motor pathways in the spinal cord, an abrupt appearance of this is generally due to trauma (e.g., fractured spine) or vascular lesions such as hæmorrhage or thrombosis. On the contrary, spinal cord tumours or degenerative changes may take months or years to cause the same degree of paralysis.

3. *Modifications of Symptoms.*—The patient should be asked *whether any circumstances aggravate or relieve the symptoms.* Epigastric pain relieved by alkalis or food is suggestive evidence of pylorospasm, most commonly due to peptic ulcer. Pain in the chest aggravated by breathing would point to affections of the pleura or chest wall, e.g., pleurisy or intercostal myositis. These examples could be multiplied indefinitely, and for a true appreciation of symptoms and the questions which should be asked about them, considerable knowledge of medicine is necessary.

4. *Associated Phenomena.*—Does the patient notice other phenomena accompanying the main symptom ? Attacks of pain in the right hypochondrium followed by jaundice are suggestive of intermittent biliary obstruction. Paroxysmal cough followed by a crowing inspiration (the 'whoop') suggests whooping-cough. Pain in the loin followed by hæmaturia suggests renal lesions such as calculus. Again many similar examples could be chosen.

For the junior student a table has been inserted at the end of this chapter in which some of the commoner symptoms of disease are

considered, with certain questions designed to amplify the patient's description of them. This table should be studied in conjunction with the present description of history taking.

Care must be taken to trace *any modification which has taken place in the symptoms since their onset.* Not infrequently the patient describes the existent symptoms accurately, but is confused about their character in the beginning. Sometimes, however, he is able to describe changes in their character which may be of diagnostic value.

The history of the development of the symptoms is the most important section of history taking. By close analysis of the patient's statements, the nature of his symptoms will be appreciated and their significance interpreted in the light of the physical examination.

Time spent in questioning the patient intelligently is never lost, but the types of questions to ask need experience. This experience is based on clinical practice, for which reading is a poor substitute. In the present chapter only a skeleton outline of history-taking and an elementary table of symptoms have been provided.

In later chapters the symptoms are discussed in more detail, in their relation to the different systems. When the student has read these accounts and had the opportunity of talking to patients, he will be able to formulate questions which he considers are suitable, for he will then understand what information he expects the question to provide.

Past History.—This should not be confused with the earlier symptoms of the present condition, but may reasonably include attacks of a similar nature when a long interval has elapsed. Thus an attack of pneumonia ten years previously in a patient now suffering from this disease should be included. On the other hand in a patient with a suspected gastric ulcer, attacks of epigastric pain six months previously would rightly be recorded in the present complaint.

The past history relates particularly to those circumstances or illnesses which may have caused or contributed towards the development of the present disease. A successful record of this history really demands considerable knowledge of pathology. *The junior student is well-advised to make a note of all previous illnesses and accidents*, but as his knowledge of the causation of disease increases he may justifiably discard irrelevant facts in the history. It is also important, quite apart from details of actual illnesses, to form some conception as to whether the patient was previously in robust health or has always 'ailed'.

In the case of women, the past history should include an account of the number of *children*, and of any *miscarriages* or *still-births*, and the period of gestation at which these took place. Any difficulties attendant on delivery, and abnormalities of the child or fœtus, should be recorded. The menstrual cycle should be recorded, particularly in gynæcological and endocrine diseases.

Personal Habits.—It is usually easier to consider the personal habits separately from the past illnesses. The following should be noted :—

1. The patient's *occupation* and any changes which have taken place in it throughout his life. It is necessary to know the conditions of his work, whether the hours are long, the work unduly fatiguing or tedious, whether the place of work is healthy or not, and, perhaps not least, whether the occupation is agreeable to him. The importance of occupation is well illustrated by the prevalence of silicosis (a lung disease) in stonemasons, of lead poisoning in factory workers concerned with the manufacture of lead-containing products, of cyanosis in those poisoned by aniline, and of certain nervous symptoms in workers in manganese. It may be equally important in psychoneurosis to be aware that the patient's work is uncongenial or beyond his mental or physical powers.

2. *Hours and regularity of meals.* Amount and variety of food and drink taken. Whether the food is chewed properly and adequate time is taken over the meal. These points are of great importance in digestive disorders.

3. Amount and kind of *alcohol* and *tobacco* (if any) per week.

4. Amount and quality of *sleep.*

5. *Exercise* and *holidays.*

6. *Sexual life*, if deemed relevant.

7. *The home life.* Is the patient happy and contented or are there sources of friction or worry?

Family History.—Frequently this is irrelevant, but again the inexperienced student would do better to include irrelevant matter rather than to omit facts which might be of importance. In most cases it is sufficient to record any serious illnesses occurring in the immediate relatives (father, mother, sisters, and brothers), or the cause of death if any have died.

In the case of suspected disease of an hereditary or familial type (e.g., hæmophilia, deafness, myopathies, etc.) a more detailed analysis of the family history should be made. This applies also to diseases which, though not strictly hereditary, are commonly found in several members or generations of the same family, e.g., tuberculosis, rheumatic fever, and cardiovascular disease.

When the history of the case is complete, the physician should have a mental picture not only of the patient's present symptoms, but of the manner in which these developed and of the background of personal and family life upon which they have been grafted. Too often we are rightly accused of studying the disease rather than the patient.

THE PHYSICAL EXAMINATION

In most cases the history gives a lead to the system or part of the body affected which should be examined first after a general inspection of the patient has been made (*see* Table, pp. 8–16).

Where no clue is provided by the history, examination must needs be systematic—for example, when the patient complains of vague symptoms such as fatigue, insomnia, or loss of appetite. Even when a particular

system is suspected, examination should be made of other related systems, and more briefly of the whole body.

Shortly, systematic examination should comprise the following :—

1. *General inspection* of the whole body for external evidence of disease, in particular for such signs as jaundice, anæmia, cyanosis and rashes, abnormalities in stature and development, abnormal facial characteristics, pathological changes in the limbs, hands and feet, and joints, and pathological swellings (e.g., thyroid, lymphatic glands, and new growths).

2. *The respiratory system*, including the nose, nasal sinuses, throat, bronchi and lungs, and the character of the sputa.

3. *The cardiovascular system*, including the heart, blood-vessels, and blood-pressure.

4. *The digestive system*, including the mouth, œsophagus, stomach, intestines, liver, gall-bladder, and other abdominal viscera. The fæces and any vomitus should also be inspected.

5. *The hæmopoietic system*, including the blood, lymphatic glands, spleen, and liver.

6. *The genito-urinary system*, including the kidneys, bladder, and genital organs, with an examination of the urine in every case.

7. *The nervous system*, including examination of the cranial nerves, brain functions, and motor and sensory systems in the brain, spinal cord, and peripheral nerves.

8. *The special senses*, when relevant—the eyes, ears, and nose.

9. *The psychological state*, particular note being made of undue emotion, excessive shyness or aggressiveness, lack of co-operation, or hysterical manifestations.

The general inspection and the symptoms may make a diagnosis possible without further examination, though a complete examination should not be omitted, as facts supporting or modifying the diagnosis are usually discovered. Moreover, although an attempt should be made to explain all the symptoms and signs on the basis of one disease, the possibility of multiple diseases must not be overlooked. Thus tabes and aortic disease are not infrequently found in the same patient, both having a syphilitic basis, but even unrelated diseases may be found together.

Some of the diseases diagnosable chiefly by inspection are considered in the next chapter, and the subsequent sections deal with the routine methods of examination of each system in turn. It would be redundant to consider these methods of examination in the present chapter, but it is convenient to mention here certain general observations which are necessary in most medical cases. These include a record of the temperature, of the pulse and respiratory rates, of the frequency with which the bowels are opened, and of the amount of urine passed daily. These facts are generally recorded by the nurse on the temperature chart in all cases admitted to hospital, but a record of them should not be omitted in private practice. An intelligent relative should be asked to carry out this duty.

It is usually sufficient to chart the temperature, pulse, and respiratory rate in the morning and evening, but in cases of pyrexia or when changes in the heart or respiratory rates are anticipated, more frequent observations are necessary (four-hourly or two-hourly). (*See also* FEVER, Chapter X.)

Further details relating to height, weight, and general appearance of the patient will be considered in the next chapter.

The Case Sheet.—In hospital the information obtained by interrogation and examination is set forth permanently on a case sheet, and whatever branch of practice the student may finally choose he will need records which embody the main essentials of a hospital case sheet, though perhaps abbreviated, in order to appreciate the patient's medical history as a coherent whole, and to refer back to past illnesses if a new one arises.

TABLE OF SYMPTOMS

(This table must not be regarded as complete, but it will serve as a skeleton outline to which the student can add after further reading, and experience in the wards. Fuller details of the *symptoms* of disease are given in each chapter and will suggest the type of question to be asked and will explain the reason for the questions set out here.)

SYMPTOM	QUESTIONS	EXAMINATION
ANÆMIA (*see* PALLOR)		
ANOREXIA (LOSS OF APPETITE)	1. Whether for all, or special foods 2. Duration 3. Degree 4. Other gastric symptoms, e.g., pain, vomiting 5. Loss of weight	1. Digestive system 2. Respiratory system 3. Other systems if symptoms suggest involvement. Consider also psychological causes
BLOOD IN FÆCES	(*See* EXAMINATION OF FÆCES, pp. 221–222, 433)	
BLOOD IN URINE (HÆMATURIA)	1. Amount. Colour of urine (bright-red : smoky) 2. Relation to micturition (before, during, or after) 3. Pain (renal or bladder) 4. Other urinary symptoms	1. Urinary system 2. Microscopy of urine 3. Hæmopoietic system 4. Cardiovascular system
BREATHLESSNESS (DYSPNŒA) *A*. Dyspnœa on Effort	1. What grade of effort causes dyspnœa (e.g., walking, climbing)? 2. Did the dyspnœa appear suddenly or gradually in the first place, and to what degree, if any, has it worsened? 3. Are there other cardiac or respiratory symptoms?	1. Cardiovascular system 2. Respiratory system 3. Hæmopoietic system

SYMPTOM	QUESTIONS	EXAMINATION
B. Paroxysmal Dyspnœa	1. Circumstances under which attacks come on, e.g., in bed, with excitement 2. Character of breathing (rapid, wheezing, laboured, periodic) 3. Degree of distress (any collapse ?) 4. Associated symptoms (cough, sweating, palpitation)	
COLLAPSE (*see also* FAINTING and FITS)	1. Patient's description of what happened 2. Did he fall ? Was he unconscious ? 3. Associated symptoms (dizziness, sweating, pallor, pain, diarrhœa, fever, hæmorrhage) 4. Food or drugs taken 5. Previous health. Any similar collapse before 6. Onlooker's observations	1. For evidence of poisoning, infections, intestinal derangement, and internal hæmorrhage 2. Cardiovascular system 3. Central nervous system
CONSTIPATION	1. Recent or long-standing 2. Normal habits 3. Partial or absolute 4. If partial, is it increasing ? 5. Associated symptoms (pain, vomiting) 6. Any alternation with diarrhœa	1. Intestinal tract (abdominal and rectal examination) 2. Examine for general state of health, especially loss of weight 3. Character of stools
COUGH	1. Frequency and severity 2. Duration 3. Whether present any special time of day or night 4. Whether dry or accompanied by expectoration 5. Is the cough brought on by special circumstances such as posture, effort ? 6. Amount and character of sputum	1. Note character of cough and nature of sputum 2. Respiratory system, including upper respiratory passages 3. Cardiovascular system 4. More rarely other systems for reflex causes (e.g., ear, stomach)
COUGHING OF BLOOD (HÆMOPTYSIS)	1. Evidence that the blood was coughed (blood bright red, frothy, etc.) 2. Amount of blood. Was the sputum subsequently stained ? 3. Previous symptoms of respiratory or heart disease	1. Respiratory system 2. Cardiovascular system 3. Hæmopoietic system

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