Clinical Examinations in

NEUROLOGY

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Clinical Examinations in NEUROLOGY

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The Neurologic History

GENERAL ASPECTS

History-taking is an art in the subtle directing of a conversation with a patient. As the interview develops, insight into the problem comes to the physician and enables him to direct the interview along the most useful lines. The physician should learn the art or, if you will, the science of eliciting history from a poor observer, an uneducated person, a person who may delight in twisting the meaning of things, and sometimes from a person who has mental deterioration. The task is a long one; if time has to be limited, subsequent interviews are imperative. In difficult problems a second interview is of inestimable value, since the patient's recollection may have been stimulated during the interval and important events may then be told with ease and accuracy. Physicians frequently complain that the patient misled them, that the history was changed and that, therefore, the patient is an unreliable witness. Sometimes this is true but not always. Frequently the physician has misunderstood the patient and written down his own interpretation of the patient's statements. There are times when the patient has had trouble recalling all details during the stress of his initial interview. The amount of time required to take a history will vary both with the personality of the physician and with the patient's particular problem. The amount the physician may guide and interrupt the patient as he gives the story varies with many factors, including the experience and ability of the physician. Too frequently a physician believes he can save time by direct questioning and begins such interrogation early in the interview. The technic may work reasonably well for the experienced physician, and for the inexperienced in evaluating simple problems. In difficult diagnostic problems such a method will not be efficient or satisfactory for anyone. The method must be modified according to the education and cultural background of the patient.

The recording of the history is important; if it can be remembered that one is documenting evidence, the record will likely be clear and complete. Within reasonable limits one should make use of the patient's own words, since these give a picture of the patient in his cultural background. Attempts to abbreviate remarks of the patient by using technical terms, or the physician's interpretation of the patient's remarks, usually will result in an inaccurate history. The physician may, of course, ask for clarification of the meaning of words used during the interview, and in fact he should do so. If the patient possesses reasonable mental competence, it is often worthwhile to record almost verbatim the patient's chief complaint and part or all of the symptoms in the present illness. The importance of an accurate and detailed record of events in the case of patients with compensation and insurance problems cannot be overemphasized. In such instances a verbatim report may be essential in making a correct diagnosis and giving evidence in court. The patient should be encouraged to give his story in chronologic order; during or at the end of the interview the physician will need to ask pertinent questions to obtain accurate dates and to clarify the meaning of certain words or phrases. A record of the interview should be made at the time or immediately afterward.

The order in which information is obtained about the family, past illnesses, and the social situation may vary from one physician to another, and may depend on the problem. The emphasis will not always be the same, but the important thing is to pursue the inquiry in a systematic manner; otherwise the history is likely to be incomplete. The history of the illness is a part of a life story and not something unrelated to home, work and community. The correct perspective and emphasis on these aspects are essential in making a correct diagnosis and in managing the patient and his family.

Evaluation of the clinical problem begins by an interview with the patient. This approach is advisable, and the exceptions to it are few even with patients who are mentally ill. However, relatives and friends should not be ignored. In fact, they should be given every opportunity to report information and ask questions, even though it may be inappropriate to answer all the questions they may ask. The reason for the question being asked may be as important as the question itself. Sometimes information about changes in behavior, memory, hearing, vision, speech, coordination and gait can be obtained only by interviewing the relatives. For example, in convulsive disorders the observations of the relatives may be of the utmost importance in establishing the origin of the discharging focus that initiates the spell. Furthermore, it is important to understand the attitudes of the patient and his relatives in the general management of the medical or surgical problem presented.

The method of taking and recording a history is the same for the

physician who uses a form as it is for the doctor who prefers to take a blank sheet of paper and write his notes. Our form is used as a guide for assistants and permits the recording of certain negative and positive findings in a graphic fashion and at the same time allows for the free description of observations which cannot be reduced satisfactorily to symbols.

The Chief Complaints and History of the Present Illness

The chief complaint or complaints should be documented carefully, with their duration. The latter information may not be admitted by the patient in the first part of the interview, and he should be allowed to tell his story for several minutes without interruption. Otherwise, important details may be pushed aside in his mind. Sometimes it is necessary to bring the patient back to the onset of the illness by asking such a question as "When were you last well?" or "How did these symptoms begin?" Circumstances surrounding the onset of symptoms in such data as time of day or night, location of the patient and the relation of symptoms to other events should be elicited. The actual analysis of different symptoms follows a rather similar plan; the suggested plan of inquiry about each symptom is as follows:

1. Date of onset.
2. Character and severity.
3. Location and extension.
4. Time relationships.
5. Associated complaints.
6. Aggravating and alleviating factors.
7. Previous treatment and effects.
8. Progress, noting remissions and exacerbations.

The history is then developed in a chronologic fashion, and it is easier to follow the record if the dates are clearly indicated in a space on the left side of the sheet. Knowledge about the sequence of events is used in localizing lesions and in determining the nature of the pathologic process producing symptoms. During this part of the interview appropriate questions are asked about other possible symptoms often associated with the main complaints. Later a systematic review or what may be called the "functional inquiry of the nervous system" is carried out. It is often advisable to ask the patient what he means by the particular words he uses. There is a surprising variation as to what people mean by such symptoms as "dizziness," "headaches" and "poor vision." To some patients headache means a drawing sensation; to

others an ache or pain, or even numbness or dizziness. At the end of this part of the interview, if the information has not already been forthcoming, direct inquiry should be made as to whether the patient has stopped working, and the date of this event should be noted in the space allotted in the heading of the neurologic record. This datum is of special importance in compensation and insurance problems, but actually in any illness some idea of the disabling qualities is important.

Past Medical History

There are many reasons for taking the history of the present illness before beginning questions about the past history which are unrelated to the present chief complaints. The patient should have an opportunity to talk about what he considers important before these questions are asked. Furthermore, one may better direct the inquiry into the past history, family history and functional data once one is acquainted with the present situation. Careful evaluation and recording of past events are important. A common error is to accept the patient's use of a diagnostic term as a statement of fact when he is reporting a past illness. It is wise to make some inquiry into the symptoms and situations which caused a certain diagnosis to be made. Each past illness should be carefully evaluated from this point of view. For example, patients often cite a diagnosis of poliomyelitis in childhood to explain some old trouble with an extremity. Such a statement may not fit with the present findings, and further inquiry about such an illness may be enlightening.

Inventory and Functional Inquiry

Special attention should be given to this as it relates to the nervous system. In part, it is carried out as the history is unfolded. For example, in the history of headaches, inquiry is made about nausea, vomiting and visual disturbances. However, a more complete and systematic interrogation is necessary during the interview and examination. There is a certain ease and naturalness about asking some of these questions as the physical examination is being done. For example, what is more natural than to ask the patient questions about his vision and then to test the function of the eyes? This procedure may make it very simple to clarify the meaning that he attaches to the term "blurred vision." This plan of questioning and examining does not overemphasize the question in the patient's mind. More important is the fact that the physician thinks functionally as well as anatomically as he pursues the evaluation of a clinical problem. Thinking and examining go on simultaneously as one looks on these systems.

Family History

The family history may be of special importance to the neurologist. The health history of the parents and the siblings should be carefully obtained and recorded. The patient's condition may be such as to suggest that a hereditary factor is important. If so, then a more detailed family history needs to be taken. Charts and symbols have been used by the specialist in genetics, and they do portray nicely a family history. However, the eliciting of such information is best done in a simpler way. The name, age, sex, state of health and cause of death are recorded for each parent. Similar information is then obtained for the patient's siblings, the siblings of each parent and other relatives. At a later date this information may be reduced to a chart.

Questions about other relatives are frequently indicated, particularly in the case of headache, epilepsy, hyperkinesia, nystagmus, muscular atrophy and dystrophy, cerebellar disorders, ataxia and neuropathy. Many other examples might be given, but in a broad way one should think to ask such questions as "Have any of your relatives had any illness such as you have?" or, as in the case of convulsive disorder, one may need to frame the questions in a meaningful way for the patient and ask, "Have any of your relatives had fainting spells, spasms or blackouts?" The questions should be asked more than once when there is a reason to expect a positive answer. Sometimes, during a second interview, the patient may come with a family tree carefully prepared as the result of some research at home or of correspondence with relatives in other parts of the country.

Social History

It has been mentioned that data about social problems in the family are of importance to the physician. In like manner inquiry should be made about the patient's personality development and his reaction to stress and illness. At least brief inquiry should be made regarding attitudes toward parents and siblings. Some factual data regarding the patient's educational achievements and his adjustment at work should be obtained. A knowledge of marital harmony or disharmony and of the behavior of offspring often throws some light on the neurotic aspects of an illness.

SPECIFIC INQUIRY IN REGARD TO CERTAIN COMMON NEUROLOGIC PROBLEMS

It is only natural that the experienced neurologist is more adept than the novice in quickly eliciting pertinent data from the patient.

Experience is acquired slowly, but the skill of the beginner can be augmented by guidance. Consequently, a brief discussion of the symptoms relative to the more common neurologic problems, namely, pain, headache and convulsions, is inserted here to aid the novice in taking the neurologic history.

1. Pain

The commonest pains of neurologic origin, exclusive of headache, are those which originate from lesions of the peripheral nerves, the spinal roots and the thalamus or sensory tracts of the central nervous system.

The quality of pain resulting from lesions of the nervous system varies greatly. In severity it runs the gamut from the very mild to some of the most excruciating pains that human beings are called on to bear. Often the pain has a deep aching quality described as "boring." More often the pain, mild or severe as the case may be, is accompanied by sensations described variously as "numbness," "deadness," "tingling," "pins and needles," and "burning." Sometimes the patient will liken the sensation to that which follows an injection of a local anesthetic agent or that which is associated with an extremity "going to sleep." Furthermore, he may be aware of an increased sensitivity of the skin in the region of pain. Frequently, the pain, even though it is never excruciating, has a disagreeable quality that distinguishes it from most somatic pains and is particularly difficult to bear incessantly day after day. Occasionally, as in trigeminal neuralgia and tabes dorsalis, the pain has a flashing, lightning-like, or electric shock-like quality that may be vividly described.

The site of the initiating lesion is often difficult to localize by the quality of the pain alone. It is the distribution of the pain, the specific aggravating factors and the associated neurologic picture that aid us most in determining the site of origin.

Pain in Peripheral Nerve Lesions. The pain and paresthesia produced by lesions of the peripheral cutaneous nerves are usually limited to the area supplied by the nerve or nerves affected. They are often burning or prickling in quality, sometimes described as "sharp." Thus, in carcinoma of the antrum, the second or maxillary division of the trigeminal nerve alone may be involved, and the subjective sensory disturbance is confined to the cheek and upper lip. In meralgia paraesthetica, which results from compression of the lateral femoral cutaneous nerve, the subjective sensory experience is likewise limited to the area of skin on the lateral surface of the thigh which is supplied by this nerve. Inestimable help in diagnosis is obtained by consulting the charts depicting areas supplied by the principal cutaneous nerves (see Figs.

9–5 through 9–9, pp. 193–197). Thus, the location of the pain complained of may be compared with the area of skin supplied by the cutaneous nerves.

In lesions of sensory nerves one must depend on sensory phenomena alone for localization, but in lesions of nerves composed of both somatic motor and sensory fibers, corroboration in diagnosis may be afforded by the detection of weakness, wasting, decrease in the muscle-stretch reflex, and the electromyographic findings of denervation in the muscles supplied by the affected nerve peripheral to the site of the lesion. In ordinary polyneuritis the pain and paresthesia are widespread and symmetrically distributed. In peripheral polyneuritis the subjective disturbances are the same but are confined to the distal portions of the extremities. In mononeuritis multiplex, the lesions are disseminated, and several nerves are involved at random.

The pain of peripheral nerve lesions, particularly in polyneuritis such as that accompanying diabetes, is frequently worse at night than during the day, but it differs from the nocturnal aggravation commonly reported by patients who have nerve root lesions in that the nocturnal intensification is independent of position and is not related to assuming the horizontal position at night.

Pain Resulting from Lesions Involving the Sensory Nerve Roots (Root Pain). The characteristics of root pain which aid in diagnosis are presented below, and spinal lesions should be given diagnostic consideration when one or more of the characteristics to be described are present.

1. The first of these characteristics is localization of the pain to the dermatomes supplied by the affected nerve root. The pain, although often widely distributed throughout the dermatome, is occasionally limited to a small area within it. It is well to remember this point, since frequently it accounts for failure in diagnosis. The charts depicting dermatomes (see Figs. 9–4 and 9–10, pp. 192, 197) serve an important function in determining whether the pain under consideration is of radicular origin.

Pain from lesions involving deep somatic or visceral structures, such as the bone and ligaments of the spinal column, or the thoracic and abdominal viscera may be felt in superficial areas at some distance from the site of the lesion and consequently, is designated "referred pain." As a rule, the pain extends to areas which approximate the dermatomal distribution of the nerve root supplying the irritated viscus or deep somatic structure. As a consequence of the fact that the distribution of root pain and referred pain may be similar, great difficulty arises occasionally in distinguishing between the two. The other characteristics of root pain to be presented subsequently may be of inestimable value in the differential diagnosis of such problems. However, the well-known effect of cough, sneeze and strain must be carefully weighed, since these actions may induce movement of the diseased