

**Clinical
Gastroenterology**

PALMER



CLINICAL GASTROENTEROLOGY



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CLINICAL GASTROENTEROLOGY

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* P R E F A C E *

There are roentgenologic gastroenterologists and endoscopic gastroenterologists and biochemical gastroenterologists and physiologic gastroenterologists and some others. The most successful and most content is the bedside gastroenterologist because he finds out most about his patients. This is a presentation of gastroenterology as a clinical subject, intended for the consideration of those whose main interest is bedside medicine. Experimental gastroenterology is not discussed. Emphasis has been placed, after considerable deliberation, on those subjects which seem to have special meaning for gastroenterology as it is practiced during the present era, although this has necessitated briefer mention of some classical hang-on subjects which have been of paramount importance in the past. It is not the intent to tell the gastroenterologist how to take a history and accomplish a physical examination or, by discussing differential diag-

nosis, how he is expected to think in a clinical situation; these are matters for earlier study. Eponyms are used freely, for the practice of medicine without eponyms is like the practice of law without trial precedents. The bibliographies have been kept very brief—woe be to the gastroenterologist whose mind is a bibliography—but the items as listed are considered to be important.

Gastroenterology is full of controversial matters. In the past it has been the habit, paradoxically enough, to handle such matters by traditionalizing didactic thinking about them. To the author, attitudes in gastroenterology are very important, and no effort has been made to curb them here. No iconoclasm is intended, but some stands are taken which reflect the new divergence of thinking currently observable through the whole framework of gastroenterology. This does not include a retreat to therapeutic nihilism, but it

does, among other things, admit freely that we are not doing as well in our understanding and treatment of gastrointestinal diseases as the writings of a less secure era seemed to suggest. It seems important to avoid the mistake of assuming that the attitudes and opinions of any generation are synonymous with final answers; it is easy for clinical subjects to die if they are permitted to reach the stage of enforced unmalleability. Clinical attitudes must reflect this, and the following has been written with the thought in mind.

In acknowledging the assistance of others, I find that those who have helped most have been ward-colleagues who were probably unaware at the time of the contributions they were making. They have been many, but I would like to express grateful appreciation especially to Doctors Irving B. Brick, J. Richard Compton, David L. Deutsch, James T. Hardy, Maurice H. Greenhill, Charles R.

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E. D. P.

Washington, D.C.

CLINICAL
* GASTROENTEROLOGY *

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* CHAPTER 1 *

COMPREHENSIVE GASTROENTEROLOGY

Urology became a science when the cystoscope was born, the cardiologist was furnished with something better than auscultation of the heart when the electrocardiograph was devised, but gastroenterology has received little help from technologic advances. Gastroenterology as a clinical specialty continues to demonstrate that there can be no mechanical substitute for nearness to the patient. Every effort to get the gastroenterologic clinician away from the bedside has failed to improve the specialty, and there have been many such efforts—biochemical, electrical, isotopic and others. Gastroenterology has not yet reached the peak of its clinical potentialities, and it is fair to say that the prerequisite is more general agreement that the patient with gastroenterologic illness cannot be measured very well by the laboratory and that the specialty continues to demand total-patient evaluation and treatment. There

is hardly an older concept in medicine nor one which is more often ignored. A favorite quotation ascribed to Socrates (470?–399 B.C.) is translated thus: "And this is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole, which ought to be studied also; for the part can never be well unless the whole is well."

The gastroenterologist's responsibility is the patient's problem, whatever form it may take, and the gastroenterologist's method must be geared to the total problem. In particular, he must face the emotional problems of each patient in order to obtain sufficient information about the total-patient illness to provide effective therapy. Gastroenterologic disease, more than any other, is governed by the emotions. As often as the emotional aspect is spoken of, the tendency often is to mention it for its mentioning only, and then to proceed

with evaluation and therapy without regard for it. Perhaps to those who are not psychiatrists by specialty the emotional part of the problem is too vague or too difficult—or too frightening—to attempt to do much about it, yet there is no element in gastroenterology which is more often responsible for prolonging patient misery than failure of both doctor and patient to accept the basic importance of emotional factors in controlling illness. When it is said that 80 per cent of the gastroenterologist's practice is devoted to patients with "functional" disease, it is often meant that, following study of all patients for organic disease, some organic defect can be found in only 20 per cent. This implies an important error in thinking: the failure to recognize that 100 per cent of sick people have "functional" problems and that 20 per cent have, in addition, organic disease as either the cause, the result, or an incidental facet of their problem. The art and science of managing together both the emotional and organic aspects as a psychovisceral complex are comprehensive gastroenterology.

It is permissible to define gastroenterologic disease only in terms of its effect on the patient, not in terms of its appearance to the pathologist. No one understands this as well as the patient. Upon first encountering a clinical problem, the doctor in his automatism is likely to direct his thoughts immediately towards search for a pathologic lesion, but this is not what the patient wants nor necessarily needs. The patient expects his doctor to provide help for all matters which are disturbing him, and often no distinction is, or can be, made by him between the mental and physical aspects of the problem. Because so often the organic disease and its consequences have little to do with what is making the patient sick, establishment of an organic diagnosis is likely to prove the least helpful result of the search for the cause of symptoms. One patient with carcinoma of the splenic flexure may be as happy as a person can be, while another with the same size and type tumor may be miserable. Obviously two different total-patient problems are involved,

and resection of the two tumors is not going to furnish a total answer for both. Neither patient cares primarily about his lesion, which he probably does not understand very well. Instead, he is somebody with a job to keep, a family to maintain and a certain amount of fun to have. He looks to his doctor for help when symptoms create trouble anywhere within the framework of his own special sociologic organization. The desire for total help may, however, prove quite occult, to the patient himself, as well as to the doctor. Perhaps he can communicate with his doctor only by talking about his bowel. The doctor must keep his awareness mobilized so that, by recognizing communication difficulties, he can function continuously in the total organization of the patient's illness. Appreciation of the fact that there is much going on in addition to tumor growth is the basis for comprehensive gastroenterologic therapy.

Treatable organic disease must be treated. The emotional problems, whether or not they be associated with an organic lesion, must be actively treated, too, for proper total management. The gastroenterologist misses the major aim and, it can be fairly added, the real value of his specialty if he lets himself become disinterested in therapy of the emotional part of his patient's illness. Somehow the young clinician, whatever his field, must from the start find a way to avoid repulsion, which comes so naturally, of the emotional aspect. The threat that the doctor feels usually stems from an automatic assumption that he is supposed to accept the burden of the patient's emotional difficulties, just as he is supposed to take out the appendix if it is inflamed. If this were true, it would, of course, create an impossible situation for the clinician and a good reason to be repelled. But actually the doctor's proper role is quite different, his purpose being to see to it that the patient himself finds a way to accept the responsibility for his own problems.

The most effective means for doctor and patient to accomplish their purpose is through utilization of a technic which permits the

latter to communicate to himself the nature of his basic problem. Usually he has not only been unable to define it consciously, but he has no appreciation of its potential effects. He does not understand that inability to adjust to separations in the environment can be just as disabling as a cancer. Furthermore, it is difficult for the average patient to understand that it is not the threatening situation but his own reaction to the situation that can make him sick. Adjustment is the basic factor, and this is hard for the patient to perceive. It is a mistake for the doctor to focus on the bad situations that might surround a patient. As far as health is concerned, it does not matter much whether the patient has great financial troubles, or a recent bereavement, or an unfaithful wife, if he has made proper adjustments. Such unfortunate situations too often are called "stressful," and it is sometimes said that the patient's symptoms cannot have a functional basis without them. This is a trap that the doctor must avoid in all his dealings with patients. The cogent matter for evaluation is the patient's reaction to the situations in which he finds himself, whether they seem good or bad to the doctor. A situation which might seem to be most fortunate, such as inheritance of a large amount of money, may be just the factor which is creating stress for the patient and hence a problem in attaining healthy adjustment.

Goal-directed interview technic is the best method by which the gastroenterologist may complete the comprehensive treatment of his patient. The same approach is utilized for all patients, whatever the symptomatic problem, although for some, particularly those with ulcerative colitis, the doctor must proceed very, very slowly. Even though the doctor's purpose is not to accept the burden of the problem, he must function as an efficient catalyst if the patient is to find ways to solve them for himself. There is a great deal more to this than merely exhibiting interest and sympathy. The actual method by which interviewing is carried out cannot be described in detail in a discussion limited

to gastroenterology, but a few principles may be mentioned and, in addition, the reader is referred to the items in the bibliography which follows.

Every contact that the patient has with his doctor's establishment must be oriented towards adjustment to comprehensive therapy. It begins at the moment the patient is first encountered. The gastroenterologist is assisted in it by everyone the patient contacts through his office visits or hospital stay—receptionist, nurses, house staff, dietitians and ward attendants. All concerned must make it their business to see to it that the organization and functioning of the whole unit is comprehensive in its every intent. All must be untiring students of the art of practicing proper interpersonal relations, and it is the doctor's job to see that they do.

The doctor, while studying and treating any organic disease which may be present, interviews the patient not only at formal appointed times but also at all other brief or chance contacts, such as during ward rounds or upon encountering the patient on the street. Good interview technic, in a sense, is a way or habit of behaving towards the patient at all times in such a way that he will be encouraged to discuss his feelings about the emotional areas which are important to his illness. The doctor helps the patient find within himself more mature and more acceptable ways of dealing with his problem, by having him bring out for his own inspection the chronologic association between his symptoms and those situations and events which proved sufficient to engender emotional stress. It is interesting and, of course, very important to the psychodynamics of the problem, that even the most obvious chronologic associations seldom have impressed the patient with their symptomatic significance.

Interview therapy is not mere mental catharsis or emotional release through verbalization, because it has a specific goal, limited in its scope only by whatever practical considerations may bear on the management of the particular case. The goal,

as already discussed, is to have the patient reveal to himself the influence that emotional factors have been exerting on his total illness. The doctor directs the patient's conversation to areas which appear to be emotionally charged, while at the same time remaining as inactive in the discussion as is compatible with a productive interview. During the recitation of the initial medical history, perhaps most of these areas have been made apparent, or, if the patient is a poor communicator, they perhaps will be detected only with the passage of time.

This is autotherapy under guidance. Usually it proves easier and very much more effective than the initiate might suspect. As the patient talks to his doctor, he answers his own questions and gives up his symptoms. This takes time. There is no solution to the problem created by the amount of time it requires to practice good gastroenterology. Perhaps for the average duodenal ulcer patient about 10 hours of interview therapy are required. Actually, the results are so good when this effort is made at the onset that the patient has in the long run fewer recurrences, less disability, less chance of com-

plication, and, in general, less time lost because of illness. The comprehensive approach is a practical one for this reason.

* BIBLIOGRAPHY

1. ALEXANDER, F.: The influence of psychological factors upon gastrointestinal disturbance. *Psychoanalyt. Quart.*, 3:501, 1934.
2. ALEXANDER, F.: *Psychosomatic Medicine: Its Principles and Applications*. New York, W. W. Norton & Co. pp. 300. 1950.
3. BORTZ, E. L.: Social components in medicine. *Ann. Int. Med.*, 14:1065, 1941.
4. BRUSH, A. L.: Psychiatric aspects of gastrointestinal disorders. *Psychosom. Med.*, 1:423, 1939.
5. CANNON, W. B.: The role of emotions in disease. *Ann. Int. Med.*, 9:1453, 1936.
6. FINESINGER, J. E.: Psychiatric components in medical disease: psychosomatic medicine. *New England J. Med.*, 227:578, 1942.
7. FINESINGER, J. E.: Psychiatric interviewing: 1. Some principles and procedures in insight therapy. *Am. J. Psychiat.*, 105:187, 1949.
8. GREENHILL, M. H.: The application of psychosomatic techniques to the general practice of medicine. *North Carolina M. J.*, 10:535, 1949.
9. MYERSON, A.: The social conditioning of the visceral activities. *New England J. Med.*, 211: 189, 1934.

* CHAPTER 2 *

TONGUE

AND PHARYNX

The mouth and throat, sites of some of the most interesting of diseases, have been claimed by a relentless series of specialists—the dentists, dermatologists, hematologists, nutritionists, otolaryngologists and others. Perhaps the gastroenterologist will be excused if he continues to assume part of the responsibility for the tongue and pharynx. Whereas all the abnormalities of these regions will be important to him in his practice, only certain ones may properly be discussed here.

TONGUE

The physician of former times, who had to rely to a definitive degree on clinical observation, found detailed examination of the tongue to be a profitable pastime. He used to say that most diagnoses could be made entirely on the basis of what the tongue could tell and what it could show. With cer-

tain modifications, this is still partly true, but not often enough is advantage taken of it. The clinical dignity of the tongue has suffered, as expected, from increasing emphasis on laboratory medicine.

The tongue reflects many physiologic states—the degree of body hydration, to some vague extent the phases of digestive activity, the relaxation of sleep, the hypermotility of emotional agitation and variations in peripheral vasomotor activity. The tongue also indicates in a general way the state of total health, although, admittedly, it may be difficult to delineate between changes of local origin and those which are manifestations of systemic illness. It is well to note, parenthetically, that in neither case is it particularly important whether or not the filiform papillae gather debris in judging abnormality. The systemic disorders which cause gross changes in the appearance of the organ are

largely of nutritional, hematologic or infectious nature.

GLOSSODYNIA

This is the symptom of painful burning tongue, and a distressing problem it may be. Several local and generalized diseases may be responsible, and sometimes the cause is quite apparent. More often, however, all oral structures appear normal and no etiologic abnormality can be found on physical or psychiatric evaluation. Idiopathic glossodynia is sometimes associated with a dry mouth, and in such instances good response to neostigmine therapy suggests that the dryness may have some etiologic significance. Local causes are irritative, and in this connection tobacco and strong food and drink seem important in some patients. Electrolysis between adjacent dissimilar dental fillings (Lain's disease) appears to be a valid explanation for some cases of glossodynia, although there has been disagreement on the matter.

Glossodynia rather regularly accompanies many of the deficiency diseases. In addition to the avitaminoses and pernicious anemia, it may be a problem in the Plummer-Vinson syndrome, sprue, diabetes and the deficiencies which are secondary to thyrotoxicosis. The controlled diabetic is as susceptible to simple glossodynia as is the untreated patient, but, if acute acidosis develops, the tongue often becomes extremely painful in addition to being very dry and plethoric. In sprue the glossodynia of atrophic glossitis may be periodically aggravated by superficial ulceration.

Glossodynia often appears to have a valid etiologic connection with certain neurologic and psychiatric conditions. Sudden pain in the tongue may be a manifestation of a little stroke of Alvarez. On the other hand, it is rare following intracerebral hemorrhage. In conversion reactions, as well as in the simple neuroses, the symptomatic problems frequently center about the mouth and throat, and it appears fair to state that at times

glossodynia may be a truly neurotic manifestation.

MACROGLOSSIA

Notation of the size of the tongue, particularly recognition of mild generalized enlargement, may be of help in identification of systemic disease. Perception of mild macroglossia is not easy unless one has continuously been alert to tongue size. Systemic diseases which may be responsible for macroglossia are cretinism, mongolism, acromegaly, adult myxedema, the glycogen storage diseases, acute trichinosis, congenital muscular anomalies, von Recklinghausen's neurofibromatosis, tertiary syphilis, angioneurotic edema and primary systemic amyloidosis. More localized conditions, such as lingual tumors and lymphangiomatosis, usually cause localized enlargement, rather than true macroglossia.

Primary amyloidosis requires emphasis because, of all these conditions, this is the only one in which macroglossia is commonly the initial positive clinical finding (Fig. 1). To be sure this is a rare disease and the sign is present in only about one third of the cases, but macroglossia is one of its few manifestations on the basis of which the diagnosis can be suspected. The need for help in clinical recognition of primary amyloidosis is apparent when one considers that only about 15 per cent of reported autopsy cases have been diagnosed during life. When abnormal, the tongue in this disease is merely diffusely enlarged, without mucosal abnormality. Its size is the tip-off, and recognition of need for an explanation is the hardest step towards establishment of the diagnosis.

THE GLOSSITIDES

The glossitides constitute one of the non-specific features of a great variety of deficiency diseases, extrinsic as well as intrinsic. In all, the mucosa of the tongue demonstrates its own unique response-pattern, and, even though there may be certain qualitative characteristics which tend to accompany specific nutritional or hormonal deficiencies, there are no specific histopathologic patterns.

Actually this makes little difference to the clinician because rarely do single deficiencies occur. The classical descriptions of pellagra, with its swollen scarlet tongue which is especially susceptible to aphthous ulceration, and of ariboflavinosis, with its purple denudation and mushrooming filiform papillae, must become familiar to all clinicians, but their diagnostic usefulness is a bit limited because of their specificity.

Histopathologically, the progressive stages of chronic glossitis are rather clear-cut. If one should make an autopsy study of the matter, he may easily become convinced that the several chronic glossitides, as they are often designated, are actually no more than stages of a single pathologic process. The earliest change is hypertrophy of the fungiform papillae of the anterior third of the tongue. Later their tips become flattened

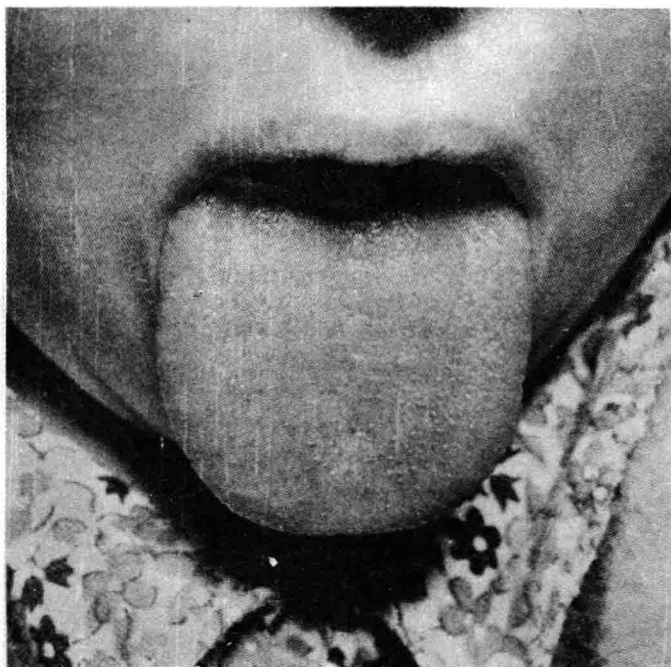


FIG. 1. Moderate macroglossia in 24-year-old woman with primary amyloidosis. There were no other positive physical findings.

The quantitative aspects of glossitis, on the other hand, can be signs of major clinical import. In the population groups encountered by most gastroenterologists in this country at this time, florid nutritional deficiencies are rarely encountered—few are either severely acute or in an advanced chronic phase. Fortunately, the changes observable in the tongue rather faithfully mirror in their intensity the severity of deficiency, and their rapidity of improvement under treatment is sufficient to furnish a useful gauge for estimating the progress of total response.

and there is a tendency towards fusion at their base. The filiform papillae become abnormal later, largely through squamous hyperplasia. The final stage is initiated by atrophy of both types of papillae. This stage may continue to the point at which the lingual surface is converted to little more than smooth stratified squamous epithelium. All of these changes are grossly discernible at physical examination, and it behooves the clinician to be on the alert for the signs of progressive chronicity.

The atrophic glossitis of hemoglobin de-

iciency holds particular interest. It may be that the common denominator here is hypoxia, the appearance of the lingual surface reflecting in part the efficiency of local oxydative processes. The smooth, red, sore tongue of pernicious anemia (Hunterian glossitis) is the classic example (Fig. 2). But it must be pointed out that atrophic glossitis is not a constant accompaniment of untreated pernicious anemia, and, in fact, in some parts of the world a smooth tongue is rarely found,

any of the deficiency diseases is ordinarily a simple matter of assuring adequate supplementation. Glossitis of avitaminosis and of nutritional macrocytic anemia is notoriously prompt in its response. In pernicious anemia glossitis responds well to liver and to vitamin B₁₂, less well to folic acid

HAIRY TONGUE

This is a descriptive term applied more than a century ago to a peculiar abnormality

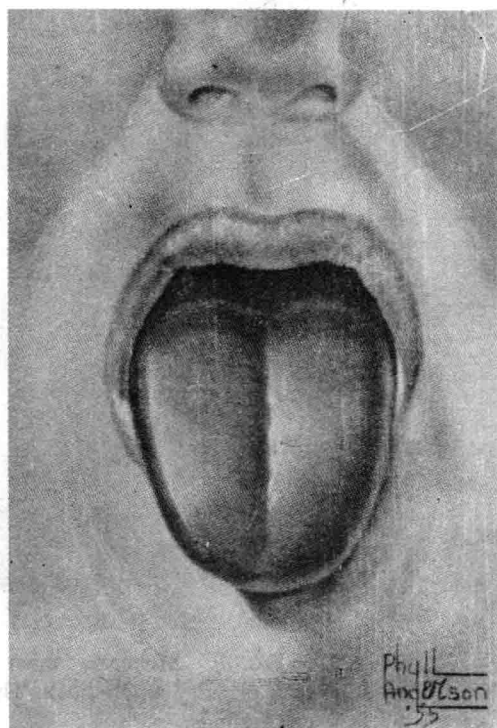
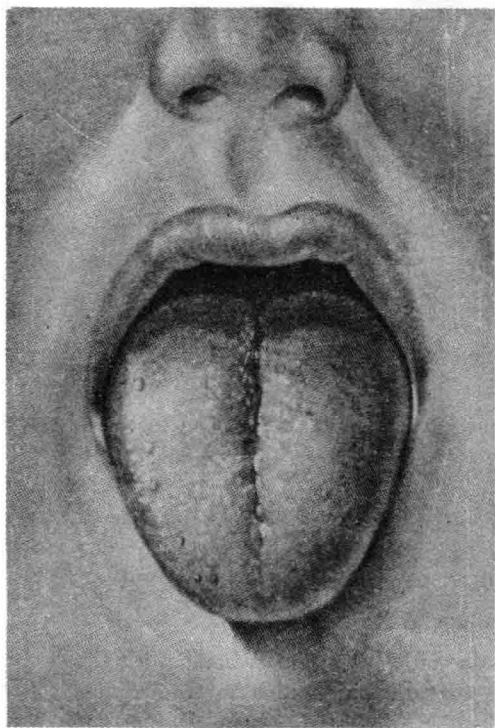


FIG. 2. Severe atrophic glossitis (*right*) compared with normal tongue (*left*). This was a case of untreated pernicious anemia (Hunterian glossitis).

even though the degree of anemia be marked. In such areas it has been found that dietary habits are unusually good and vitamin intake high. Even though a characteristic facet of the pathophysiology of pernicious anemia is impaired intestinal absorption, if the vitamin concentration in the intestinal contents is high, absorption may be adequate to cover basic dietary needs. There is evidence here that more than hypoxia may be behind the gross abnormalities of atrophic glossitis.

Treatment of glossitis which accompanies

of the filiform papillae, characterized by extraordinary overgrowth secondary to cessation of normal desquamation (Fig. 3). The result is a startling hairy appearance of the central and posterior portions of the tongue. Rarely it may remain unilateral. The accumulated mass of tissue may cause distressing irritation of the gag mechanism. The condition is most often encountered in debilitated elderly men, especially those with either chronic infection or malignant tumor of the sinuses, oropharynx or larynx. His-

tologically the papillae are found to be greatly elongated and a bit thickened by retained cornified epithelial cells. Fungi are easily culturable from the papillae in many cases, but an etiologic significance is doubted by most clinicians. Treatment by indirect gestures is always unsatisfactory. Amputation with scissors is the treatment of choice.

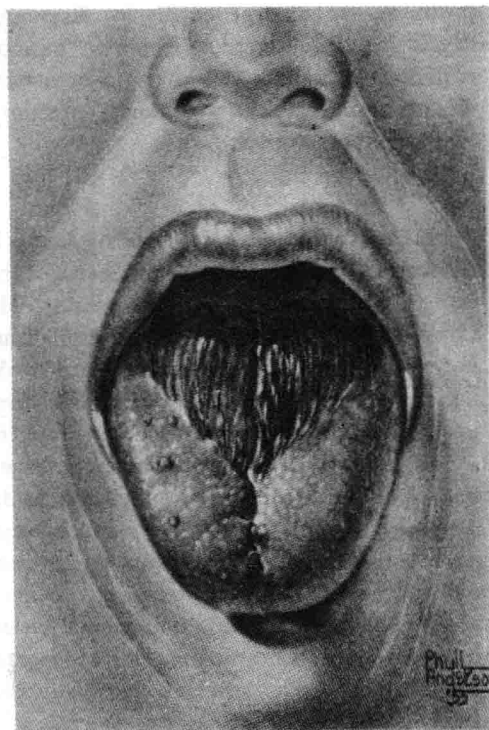


FIG. 3. Hairy tongue. The distribution of the tremendous overgrowth of filiform papillae shown here is characteristic.

Use of lozenge and inhalation preparations of antimicrobial agents, particularly penicillin, has brought to light a new form of hairy tongue. Here the mucosa may take on the appearance of heavy wet velvet, as opposed to the grosser and more filiform appearance of classical hairy tongue. This type is always mild and evanescent, and, unless the patient discovers it, is of little clinical consequence.

OTHER DISEASES OF THE TONGUE

The appearance of the tongue may be of primary help in clinical recognition of *syphilis*. For diagnostic thinking, it is neces-

sary to remember that as it progresses *syphilis* of the tongue may assume many gross forms. The chancre sometimes appears as a painless and persistent small discrete ulcer, but as often it is represented merely by an inconspicuous papule. In a few weeks the process becomes superseded by the classical mucous patch or patches. These appear like irregular islands of superficial gray coating, but the process extends deeper than inspection suggests. Meanwhile the general color of the tongue becomes strikingly hyperemic, so that the mucous patches stand out clearly. Gummas apparently begin in the central fibrous raphe, for they usually make their appearances near the midline, where they eventually form sloughing ulcers. The final picture is that of a generally shrunken appendage with a deeply scarred surface.

Tuberculosis of the tongue is not excessively rare—at least 500 cases have been reported to date. The nodular and ulcerative lesion characteristically occurs at the edge of the organ and is very painful.

A *ranula* may occasionally develop in the gland of Nuhn-Blandin, and the result is local swelling near the tongue's tip. Often the patient gives the history of recent dental repairs. The swelling may rupture spontaneously, with discharge of clear thick material, only to refill gradually. Treatment is removal of the cyst's top.

As babies develop their lower incisor teeth, they may traumatize the lingual frenulum, and this, in time, may lead to chronic granuloma of the frenulum (*Riga-Fede disease*).

Discrete *pigmentation* of the tongue is associated with pigmentation elsewhere in the buccal area. In Addison's disease spots and streaks of blue, brown or black may be seen around the tongue's edges and, with a little difficulty, over its dorsum. The pigment spots of Peutz-Jeghers' syndrome, which is discussed in the chapter on the small intestine, are more buccal than lingual. In both diseases the color is due to melanin in the basal epithelial layer.

Lichen planus and the lesions of *disseminated lupus erythematosus* may occasionally be found on the tongue. The former may be

limited to the mouth, occurring as light gray papules distributed in patches or streaks over the lingual dorsum. The latter are usually silent but have a rather striking appearance, with white eroded centers and bright red halos. They may precede development of the skin lesions.

PHARYNX

The pharynx is a small region but its normal function from moment to moment is essential to life. Not only must its upper portion remain free of obstruction so that flow of air to the laryngeal aditus is unimpeded, but also it is responsible for seeing to it that ingestants are guided into the esophagus rather than into the respiratory tract.

DEGLUTITION

If the normal pharynx has a special characteristic, it is that of an astounding complexity of neuromuscular coordinations. Although relatively few muscles actually surround the pharynx, a great many neighboring ones supplement its activities and different segments of its own muscles function from independent stimuli. The act of swallowing is something of a highlight among the body's muscular mechanics. It is all initiated by backward propulsion of the bolus by the tongue, with stimulation of Pommerenke's areas, the sensitive pharyngeal spots which are responsible for setting into motion the pharyngeal deglutitory activities. The trigger areas are supplied largely by the glossopharyngeal nerves, with help from the second branches of the trigemini and the superior laryngeal nerves. The motor supply to the six pharyngeal muscles comes from the glossopharyngeals, accessory nerve branches from the pharyngeal plexus, and branches of the external laryngeal and recurrent nerves. As the bolus enters the hypopharynx, the larynx, trachea, pharyngeal walls and upper esophagus make a sudden upward movement. Both the hyoid bone and larynx move forward as well as upward, opening the pharyngeal lumen. The base of the tongue, which similarly has migrated anteriorly, then returns towards the

posterior pharyngeal wall. The epiglottis, which was tipped over backward to empty the valleculae in a divided stream around the laryngeal aditus, slowly resumes an upright position. As the hypopharyngeal walls descend again, they contract above the bolus, the cricopharyngeus muscle relaxes, and the bolus is passed quickly into the esophagus.

Diseases of the hypopharynx manifest themselves to a large extent by disordered deglutition. The symptom common to most is difficult or painful swallowing, whether the disease be mechanical, neurologic, infectious, tumorous or emotional.

GLOBUS HYSTERICUS

This is the common symptom of "lump in the throat," and it always indicates a response to some emotional stimulus. The trouble is that all "lumps in the throat" are not globus hystericus. Cancer can cause the patient to describe the same feeling. Although to the doctor the term implies a very specific sensation with a very specific etiologic significance, the patient is not practiced in describing abnormal feelings. He who diagnoses globus hystericus assumes heavy responsibility. Even in the overtly neurotic patient, the complaint should be labeled globus hystericus only after roentgenologic and endoscopic examinations have revealed normal structures.

The sensation appears to be a paresthesia. "Lump in the throat" describes it well enough. It may be felt briefly by the most stable of people, particularly youngsters, during any sincere emotional response to grief. When it is prolonged or recurrent over long periods in the absence of recognized sadness which calls for overt emotional response, it is abnormal.

NEUROLOGIC DISEASES

Several neurologic diseases may disturb the functions of the pharyngeal muscles. The result is incoordination of deglutition. The danger is not that of eventual undernutrition but of transadital aspiration and acute or chronic pulmonary disease.