

THE
YEAR BOOK
of DENTISTRY

(1959-1960 YEAR BOOK *Series*)



THE PRACTICAL MEDICINE YEAR BOOKS

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Dentistry

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DIAGNOSIS

Role of Dentist in Diagnosis and Treatment of Lesions of Oral Mucosa is presented by Hamilton B. G. Robinson.¹ When dentistry emerged as an individual profession, its area was recognized as the prevention and treatment of oral disease. It is important to note that it is *oral* and not *tooth* disease. By and large, medicine has recognized this division and has left primary responsibility for prevention, diagnosis, treatment and research in oral disease to the dental profession. Dentistry has been given a responsibility that dentists cannot avoid, for they accepted it when they received their diplomas. Limitation of practice to any specialized area in dentistry does not allow a dentist to shed the general responsibility for diseases of the oral regions.

The traditional training of dentists has been broadened in recent years through the opportunities associated with a firmer foundation in the basic sciences and in the sciences basic to medical and dental practice. The great number of diseases which are primarily oral or have oral manifestations requires a broad educational basis in medical science and a high degree of proficiency in recognition of oral lesions. A list of 145 oral mucosal lesions presented include those of developmental, genetic, infectious, metabolic, hormonal, traumatic and unknown etiology.

It is the duty of the dentist to know of these lesions, to know the clinical manifestations, to know the specific tests for them and to apply these aids to diagnosis. Though he must know how to treat the lesions, this does not mean that he should not seek help when it is needed. Knowing when and from whom to seek consultation is evidence of professional maturity. Regardless of academic degrees, the patient should be referred to the best qualified person for consultation or treatment.

All dentists should accept the responsibility for diagnosis of oral cancer and should be adept at removing a tissue sample for microscopic examination. Use of biopsy should not be limited to diagnosis of cancer. Biopsy, blood examina-

(1) Oral Surg., Oral Med., Oral Path. 12:14-18, January, 1958.

tions, blood chemistry, serologic study, urinalysis, endocrine studies and bacteriologic examinations are all tools that should be used whenever necessary to enhance diagnosis and treatment.

This field of dentistry is not a new responsibility, but knowledge in the area has increased and recognition of responsibility has been aroused. It may be called clinical oral pathology, stomatology, oral medicine or any other name, but it still remains an interesting, rewarding and important area within the broad field of dentistry. Diagnosis and care of lesions of the oral mucosa are and will remain the responsibility of all dentists—the family dentist and specialist alike.

► [Dentistry must continue to broaden, not narrow, its responsibility, and dentists must consider the patient as a person and as a whole in diagnosis.—H.B.G.R.]

Psychosomatic Medicine and Diagnostic Process. According to Richard M. Magraw² (Univ. of Minnesota), everybody has a good word to say for the concept of psychosomatic medicine, but not many work it into their practices. Psychiatrists are prone to say that the trouble lies in the practicing physician's lack of knowledge of psychodynamics and psychopathology, whereas the practicing physician feels his basic problem is the matter of time. Although both factors are important, Magraw believes the basic trouble is in deficient diagnosis

The two elements of diagnosis are the gathering of facts from the history and physical and laboratory findings and analysis of the acquired data. This analysis consists of a "stepwise" progression of understanding, a sequence of deductions. To get logically from a given fact to a diagnosis, a series of intermediate decisions is required. With practice, the doctor can sometimes jump from the symptom to the diagnosis without any perceptible intermediate steps in diagnosis. Consequently, there exists a gap in the logical process of diagnosis, the more important because it is likely to be unrecognized.

One intermediate step is for the doctor to decide whether the complaint is really a complaint at all. This decision is made as the doctor seeks to establish the exact place and nature of the patient's "hurt." He must determine whether the patient is primarily interested in relief or whether he is

(2) Postgrad. Med. 25:639-645, June, 1959.

more interested in using his symptoms to extract care or to impress his family. Often a symptom is both distressing and gratifying and the doctor must decide to what extent both factors are involved.

If the patient is distressed by his symptoms, it should be determined whether the basis of the distress is organic or functional. Although this is a useful and valid distinction, the word "functional" in present day clinical usage has taken on a meaning different from its dictionary definition. Functional, in clinical usage, has come to be applied primarily to symptoms in which no actual functional change is demonstrated. Frequently the entire symptom is nothing but an emotionally charged symbol or mental image projected onto the body from whence it is reported as if it were actually there. To say that a symptom is imagined or symbolic does not mean that the patient's distress is unreal or that he is cheating. Since the term "imagine" can be misused and misinterpreted, "symbolic" is the preferred term for describing these symptoms. Symbolic symptoms are very common in practice. Usually they are not sufficiently obvious or persistent to merit an out-and-out diagnosis of a psychiatric condition. The symptom is often a mixture of mechanisms and the doctor must decide to what extent it is symbolic or a reflection of disturbed physiology or structural change.

The proper diagnostic orientation is not, "What disease(s) does the patient have?" but rather, "What mechanisms, including disease entities, are important in the patient's symptoms?"

► [This is a most sensible discussion of psychosomatics in diagnosis and of the "symbolic" symptom. It is equally applicable to dental and medical diagnosis.—H.B.G.R.]

Diagnosis and Treatment of Some Psychogenic Disorders of Dental Interest. J. P. Walsh³ points out that psychogenic disorders are disturbances of the mind and emotions. They may be classified as psychoses, neuroses and behavior disorders of children. Dentists are mainly concerned with neuroses and behavior disorders. Dental diseases can cause psychic disturbances and, conversely, disorders of the mind and emotions can produce oral disease or symptoms.

Oral diseases may have considerable effect on the mind and emotions. Oral deformities, including decayed teeth

(3) New Zealand D. J. 55:14-19, January, 1959.

prognathism, receding chin, etc., can cause feelings of social inferiority and mental distress. Patients with natural or artificial teeth rarely complain of lack of masticatory efficiency and are far more concerned about their appearance.

The dentist may accept as a matter of fact that the patient has come to seek his advice and, after examining the mouth but not the patient, suggest a course of action quite unacceptable to the patient. The real reason for the patient's visit to the dentist can usually be discovered by simply asking the patient why he came to him. This all-important question is sometimes overlooked. The dentist should always sit down in front of the patient at the patient's own level, take a history and try to establish a relation in which the patient is willing to admit the real reason for the visit. To treat the patient adequately and correctly, the dentist must be aware of the real reason for seeking treatment and the real nature of the complaint.

Mental and emotional disturbances may produce oral symptoms which may take the form of conversion hysteria or the development of habits or complaints. Frustration, tension and anxiety can produce bruxism. This may induce periodontitis or symptoms of a temporomandibular joint disturbance. Feelings of guilt may cause polysurgical addiction. Recognition of symptoms due to psychic disturbances may not be easy. A complete history is the first essential step. The patient should be asked why he is seeking dental treatment, the nature of his complaint and its duration. He should be encouraged to describe his complaint fully and in his own words. The manner of his description will often indicate excitement, tension, aggression or other mental or emotional disturbance.

The treatment of psychologic disorders may not be regarded as the responsibility of the dentist, but all dentists use psychotherapy in their practice. The treatment of particular types of patients may be beyond the scope of the dentist, but some pitfalls may be avoided. Recognition of the obsessional patient may save the dentist from having to bear the brunt of the patient's accusations. Anxious, masochistic patients with feelings of guilt, who demand operations and then blame the practitioner if the operation fails, can be helped more by a little psychotherapy than by another oper-

ation. The dentist can avoid making an anxious patient worse and particularly he must prevent fixation on an oral symptom.

► [If the dentist follows the important sequence of diagnosis, treatment prescription and treatment programing *before* instituting therapy, rarely will he make the error of increasing anxiety, the "dysdactic syndrome" (1957-58 YEAR BOOK, p. 447) or other emotionally based symptoms.—H.B.G.R.]

Psychosomatic Aspects of Temporomandibular Joint Dysfunction. William L. Kydd⁴ (Univ. of Washington) studied 30 patients, aged 15-61, with temporomandibular joint pain. In 29, this appeared to be noninflammatory in nature, and in 1, an inflammatory disturbance followed a sodium psylliate injection into the left joint. These patients were evaluated on the basis of occlusal relations, electromyographic studies and emotional status.

Most patients sought treatment within 90 days after onset of symptoms. A dull, deep-seated pain of low intensity was the commonest complaint. None were aware of any external traumatic factors which could be correlated with the symptoms. All patients showed some malocclusion, varying from a slight lateral shift in an angle class I occlusal position to an extreme lateral and posterior shift in an angle class II, division 2 malocclusion with incorrect cuspal guidance. Occlusal dysfunction was usually not serious or extreme; less than 25% of patients had extreme dysfunction.

Electromyography illustrated that in 29 of the patients action potentials disappeared when the patient was comfortable and at ease in the test environment and the skeletal muscles were relaxed. Emotional evaluation, obtained from the history, interviews and use of the Cornell Medical Index, Minnesota Multiphasic Personality Inventory and the Edwards Personality Profile, disclosed that 23 (76%) of the patients were emotionally disturbed. In 22, it was possible to demonstrate a relationship between exacerbation of symptoms and difficulties in personal and social adjustments indicating conflict and anxiety.

Occlusal splints or equilibration were used to modify the malocclusion in 28 patients. Two had spontaneous remission of symptoms after 2 weeks and no treatment was recommended. Remission of symptoms occurred in 29 of the

(4) J.A.D.A. 59:31-44, July, 1959.

30 patients. The one treatment failure was in the patient who continued to have pain, trismus and tenderness to pressure 6 months after receiving an injection into the left temporomandibular joint.

The author believes that the practitioner should adopt a holistic attitude concerning temporomandibular joint dysfunction. There is no specific cause for this problem and it should be considered as a reaction to both intrinsic and extrinsic causes. Careful evaluation should be made of the patient's oral, physical and emotional status. To ignore any of these is to invite failure. Intrinsic oral trauma from malocclusion appears to have enhanced etiologic significance in the origin of the temporomandibular joint syndrome when it occurs in a threatening life situation emanating from difficulties in social and personal adjustments which engender generalized skeletal muscle hyperfunction. Correction of cuspal guidance may cause temporary remission of symptoms in these patients. Extended relief can be achieved in emotionally disturbed patients only when situations which threaten their security and produce anxiety have been removed and necessary occlusal adjustments have been made.

Conservative measures to correct temporomandibular joint disturbances include occlusal equilibration or splinting plus emotional support, use of tranquilizers as a temporary adjunct to treatment during the acute phase and psychotherapy when indicated. These should be thoroughly tried before radical procedures such as condylectomy or joint injections are considered.

• [External factors in temporomandibular joint dysfunction appear to be assuming a more important role. Freese (New York J. Med. 58:2533, Aug. 1, 1958) suggests that mandibular muscle spasms with pain, mandibular dysfunction and emotional disturbance constitute a syndrome. He prescribes a twofold treatment: reassurance to the patient and physical therapy. Thorough diagnosis and patient evaluation always is essential.—H.B.G.R.]

Facial Pain may be defined as pain arising in or occurring in the area of the skin distribution of the 5th cranial nerve. D. Taverner⁵ (Univ. of Leeds) points out that facial pain is a common and often puzzling symptom. In dealing with some of the pains met clinically, it is convenient to start peripherally and work inwardly along the ramifications of the 5th nerve. Pain arising from pulpitis, periodon-

(5) Brit. D. J. 106:165-171, Mar. 3, 1959.

titis and dental abscesses can usually be recognized and treated without great difficulty. On rare occasions, nerve injury after extractions leads to severe and persistent pain in the area supplied by the nerve. This is most often observed along the course of the inferior alveolar nerve and appears similar to the causalgia resulting from injury to the major limb nerves. The mechanism may be an interaction of damaged fibers at the site of injury so that nerve impulses traveling from the periphery set off secondary impulses in other fibers at the injury site, thus causing pain. This condition is most resistant to treatment, but is fortunately rare.

Other painful diseases of the face can usually be recognized by the site of the pain and associated physical signs. In sinus disease, there is marked local tenderness, and opacity of the sinuses is found on transillumination or on x-ray. Apart from fairly obvious acute infections, sinus disease is not a common cause of diffuse facial pain. Temporal¹ arteritis is an important, although uncommon, cause of facial pain which is often overlooked. This is a generalized vascular disease of elderly people in which subacute inflammation of the media of arteries leads to thrombosis. Severe, persistent pain in the temple and forehead is associated with loss of appetite and weight, diffuse pains, fever and exhaustion. The temporal arteries are tortuous and tender. It is doubtful that temporomandibular joint arthritis ever causes more than pain locally over the joint. Some of the claims for remote pains resulting from mandibular joint disease are anatomically impossible.

The trigeminal nerve is also vulnerable to various conditions which may affect it between the foramina in the skull base and brain stem. All of these conditions are rare, but may cause severe and mystifying pain. Among them are inflammation of the petrous temporal bone, neuroma of the acoustic nerve, fracture or meningioma of the middle fossa, syphilitic meningitis, tabes dorsalis, tumor of the pituitary gland and aneurysm of the internal carotid artery. Postherpetic neuralgia is a serious and severe complication of herpes zoster infection in older persons. These patients complain of constant burning pain with added stabs of severe lancinating pain. The mechanism for the pain is unknown and the condition completely incurable, even by heroic surgical measures.

Many patients with facial pain have no physical signs or evidence of radiologic abnormalities. Such patients are often regarded as psychoneurotic. However, it is a safe generalization that severe, persistent local pain in any one part of the body is rarely psychogenic in origin and such a diagnosis is proved wrong with dismaying regularity. Many of these patients have paroxysmal trigeminal neuralgia or recurrent migrainous neuralgia. Accurate and detailed history is essential to distinguish these conditions.

Trigeminal neuralgia has one of the most characteristic syndromes in medicine and one of the most severe pains known to man. There are, however, no physical signs or diagnostic tests and everything depends on the history. The pain has certain characteristic and pathognomonic features: (1) paroxysmal nature of severe pain; (2) variable periods of remission between paroxysms of pain; (3) presence of a trigger area; (4) distribution of pain in one or two branches of the trigeminal nerve; and (5) absence of physical signs. If these features are absent, the diagnosis of trigeminal neuralgia should never be made. The diagnosis is usually not difficult, but the treatment is an ordeal for both patient and doctor. Alcohol injections and various surgical procedures have been advocated. None of these methods are free from complications nor completely effective.

Paroxysmal migrainous neuralgia is probably a vascular pain which affects middle-aged men and women. The pain occurs in bouts lasting for weeks or months, followed by remissions. During the bouts, the patient has repeated attacks of unilateral facial pain for 20-60 minutes. The pain is severe, dull, aching or throbbing. It is situated around one eye, in the cheek, temple and forehead. The attacks tend especially to waken the patient during the night. Intense vasodilation of the conjunctiva and blockage of the nostril on the affected side are diagnostic signs. Treatment is symptomatic and largely ineffectual.

► [Taverner brings out many valuable points in his discussion. However, he fails to recognize that temporomandibular dysfunction, as pointed out by Reeves and by Wolff, can be an *indirect* cause of headache.—H.B.G.R.]

Nature and Causation of Headache. Harold G. Wolff⁶ (Cornell Univ.) states that over 85% of the population has headaches at one time or another. Headache always indi-

(6) J. D. Med. 14:3-34, January, 1959.

cates that something is wrong. Fortunately, this usually means "wrong pace" or "wrong direction" rather than an ominous signal of disease. Five basic mechanisms operate within the cranium to produce pain: (1) traction and displacement of the longitudinal and great venous sinuses and their tributaries; (2) traction and displacement of the middle meningeal artery; (3) traction and displacement of the arteries forming the circle of Willis; (4) direct pressure on major afferent nerves; and (5) inflammation of or about any of these structures. The belief that increase or decrease of intracranial pressure causes headache is erroneous. Brain tumor headache is the rarest type and comprises less than 1% of all headaches.

Headache results from vascular disturbances and sustained skeletal muscle contraction about the head in over 90% of patients. Histamine phosphate will produce experimental headaches but as yet there is no proof for a clinical histamine headache. There is considerable evidence that sudden increase in vascular pressure within cranial arteries is an important source of these headaches. Numerically, migraine headache is the commonest type and comprises 60-70% of all headaches. This is a periodic, recurrent headache, usually unilateral in onset, but commonly becoming generalized before the episode is ended. It is often associated with nausea and vomiting and is preceded in about 5-10% of cases by visual disturbances. The temporal artery is most often involved in this type of headache, but any artery on the outside of the head may be the main source of pain. There is also evidence that a substance or substances accumulate in the tissues during a headache. These substances have the capacity to lower the pain threshold.

Headaches associated with contraction of the scalp and neck muscles are also common. These are nonpulsatile in nature and usually not intense. The pain is due to sustained muscle contraction and to tissue ischemia.

Afferent impulses arising from the teeth are not a common cause of headache. Headache due to a diseased tooth without toothache or local tenderness near the tooth is rare. The teeth as a cause of neuralgia or other facial pain do not remain obscure. Despite the suggestion that dental inflammation, impaction and exposed dentin may be hidden causes of

headache or other pain, clinical experience indicates that if such conditions are the source of noxious impulses they will make themselves obvious to the patient by spontaneous or induced local pain. If a diseased tooth is the cause of headache, local anesthesia of the tooth should promptly eliminate the headache.

The simplest and most effective therapeutic agent in headache may be the doctor's sympathetic understanding of the patient. Two of 3 patients with vascular muscle tension headaches can be helped by the doctor who is interested in human problems and who is willing to spend time with the patient in reviewing them. Basic personal difficulties are usually far more relevant to the cause of headache than eye, nose or tooth defects.

► [This is a most direct and enlightening discussion of headache. Freese (see editorial comment on p. 12) points out one "oral" cause of headache associated with temporomandibular joint dysfunction and muscle contraction.—H.B.G.R.]

Tooth Mobility as Factor in Diagnosis is considered by Lawrence A. Weinberg⁷ (Brooklyn). This important factor in diagnosis and treatment planning cannot be evaluated properly unless its etiology is known. Mobility may be related to edema of periodontal inflammation, occlusal trauma, habits and a poor root to clinical crown ratio.

Edema associated with trauma and inflammatory processes in the periodontal membrane can contribute to mobility. It can be evaluated by comparing the degree of soft tissue involvement in relation to alveolar bone height and root anatomy. If the mobility exists due to edema rather than alveolar bone loss, only tentative plans for restorations should be made. Mobility is again re-evaluated after completion of periodontal treatment. With the elimination of edema and occlusal trauma, the teeth usually tighten, which reduces the need for many restorative procedures.

Acute occlusal trauma refers to acute overloading on one or several teeth so the entire occlusal load is placed on these few teeth. This usually results in widening of the periodontal membrane space and mobility. These teeth usually tighten after occlusal equilibration. In acute cases, it may be necessary to remove all occlusal contact for the involved tooth or to construct a temporary splint. Habits, such as

(7) New York D. J. 25:75-78, February, 1959.