

with teeth having a common period of eruption. Thus, if attention be called to an aching bicuspid, and examination discovers the tooth to be in healthy condition, we will commonly find the primary lesion in either of the three fellow-teeth. If it be the first or third molar, or any particular tooth, that seems to be aching, the real seat of pain may be found in an associate organ. This is the first and most common relation of sympathy. Other and indirect causes exist in various directions, the most constant of such associations being, first, with the ear, second, with the uterus.

That odonto-otalgia, cephalalgia, gastralgia,—indeed, any reflex or radiated pain having origin in the teeth, but expressing its manifestation in distant organs, and *vice versa*,—may exist, is at once to be appreciated in a recollection of anatomical associations; instances abundant are on record illustrative of such relationship. Thus, as an example, allusion is to be made to a suggestive case reported by J. L. Suesserott, M.D., of Chambersburg. The patient, Mr. J. G., an old man seventy years of age, applied to me, says Dr. S., with the hope of being relieved of an intensely painful tic douloureux through the extraction of two or three fragments of roots of the superior incisor teeth, all the other teeth and roots of the upper jaw having been long before removed.

The suffering of the patient at the time of this first visit is described as of extreme character, a breath of air, the slamming of a door, or even an allusion to his disease, being sufficient to produce violent paroxysms. The irritation, although reflected, as it afterward proved to be, appeared confined principally to the superior and middle branches of the par trigeminum of the left side. The suffering had been so intense and long-continued that there was considerable swelling and tenderness upon pressure along the course of all the ramifications of the fifth pair.

Feeling the case, continues the description, to be a desperate one, although not suspecting the *causa morbi*, I determined on an active and energetic course of treatment. Directing my efforts to the removal of the existing irritation, and I might also say inflammation, I established an issue on the back of the neck, which, together with blisters to his temples, produced a considerable amount of counter-irritation. The external use of aconitine, and the internal administration of the citrate of iron and quinine in full doses, produced a marked alleviation; but just at the time when hope was the brightest, another severe paroxysm would fill us with disappointment, and almost compel us to declare that there is no virtue in medicine.

A period of two weeks having been uselessly expended, together with no small amount of medicine and patience, the patient, as I was dressing his issue, happened to remark that "*his stomach was not in fault, for that he could digest without discomfort pieces of meat as large as he could swallow.*" Those who have anxiously watched over an interesting and difficult case can enter into my feelings of congratulation, for like Archimedes, I felt I might exclaim, Eureka! Remembering the old maxim, *tolle causam, cessat effectus*,

I directed my efforts to the improvement of the patient's manner of mastication and to the directing of a proper character of food, with the result of a speedy cure of his trouble.

As an example of reflection in an opposite direction, a case may be cited from an interesting paper read by Julius Chesebrough, D.D.S., before the American Dental Association.

I have met, says this gentleman, a case wherein a fine-formed young woman suffered for a year after the birth of her child with pain in her teeth, alternately with that of the uterus. This case was one that had perplexed the physician in charge, and was presented to the medical society for advice. Being called on, and a statement of the case made to me, I at once suggested that the uterine derangement was a reflection from the teeth, and that these organs were morbid ones. There was some doubt expressed as to this being a correct diagnosis of the case, for the patient had no toothache before her labor, and the pain in her mouth was since that event. Suggesting that examination be made of the teeth, a visit was paid, with the result of finding decay in the four posterior molars. Three of these were extracted without giving much pain, but while extracting the fourth—the left superior—it seemed as if the woman was contracting within herself, and suffered intensely from uterine disturbance. After half an hour, however, she was entirely free from pain.

A case even more directly the opposite of the first example is mentioned in this same paper, in which a patient suffering from continual pain in the stomach was cured only upon the accidental treatment of a carious tooth,—the pain ceasing immediately upon the application of arsenical paste to an exposed pulp. A second time the same patient is reported as presenting himself,—the pain, which was of similar character and location as in the first instance, finding again immediate cure in the treatment of a second diseased tooth. In neither instance was discomfort referred to the mouth.

Of odontalgic associations with the various viscera, cases in variety could be cited, while pains outside the splanchnic cavities, as in the hip-joint, etc., have found relief not infrequently only in an attention directed to the teeth. In the chapter on neuralgia the reader will find the subject abundantly illustrated.

To understand the matter of radiation, or reflection, of pain, consideration is to be given to the anatomical associations of the nervous structure. This considers the cerebro-spinal and ganglionic systems, and refers the reader to his text-books on anatomy and physiology.

7. *Recession and Absorption of the Gum and Alveolus.*—When, for any reason, the gum falls below the enamel cap, the periodontum and cementum become exposed to various sources of irritation. The odontalgia thus provoked is seldom, however, acute or severe in its character, but only dull and annoying. The practice in these cases is generally most unsatisfactory, resulting, sooner or later, in a necessity for extraction. If the recession be associ-

ated with acute conditions or with the presence of agents of offence, treatment directed to meet the indications may result very well; but commonly such recession is slow and chronic, and admits of no remedy. Medicaments to neutralize or correct irritative conditions in the oral fluid are sometimes demanded, and answer a very good end. Of such neutralizing agents, acids or antacids are employed, according to the indications yielded by the test-papers; generally lime-water in the one direction, and very-dilute citric acid in the other.

A treatment for absorption of the alveolus consists in scraping the absorbing bone, precisely as is done in osseous caries. This is to be accomplished without difficulty by introducing between the neck of the tooth and gum the common lathe-shaped excavator, which, upon reaching the alveolus, is made to cut away the surface surrounding the tooth. Dr. Riggs, of Hartford, recommends instruments especially prepared for the purpose, but any kind which is capable of meeting the indication answers the purpose of the suggestion. Such an operation has, in theory, much to commend it; in practice, however, the benefit accruing is not by any means all that is to be desired. To receive good results from freshening the alveolar edges one is to do the operation only where indicated,—a selection which it requires much experience to make. To freshen the bone, as a majority of the cases is concerned, is to expedite the falling of the teeth.

A character of recession of the gums from about the necks of the teeth, or, to express it better, a condition in which the teeth are raised in their sockets, and where a cure is impossible, is found as the result of a growing density in the structure, in which the equilibrium of circulation between these organs and surrounding parts becomes so deranged that they are as foreign bodies, and the recession really implies a filling up of the alveoli by an osseous deposit with the object, on nature's part, of their removal. In these cases the teeth will seldom be seen affected by caries, being dense to an extent which is cognizable to the naked eye.

Recession arising from the employment of non-soluble dentifrices is frequently to be met with. Such condition is recognized from the history of the case, from the presence of particles of the substance of offence, and from the disease seeming to implicate the gum alone. Such cases have their cure in withdrawal from use of the injurious agent, in the free syringing of the part with a medicated water,—stimulation being required,—and in effecting the contraction of the turgid gums by free bleeding secured through occasional scarification.

## CHAPTER XIII.

### THE TEETH AND THEIR DISEASES.

#### PERIODONTITIS.

THE importance of the disease known as Periodontitis commands for its consideration, in a work on Oral Surgery, a special chapter.

Periodontitis, peridentitis, pericementitis, dental periostitis, as the condition is variously designated, implies inflammation of the membrane associating the root of a tooth with its alveolus. (See *Peridontium*.)

Periodontitis, like inflammation in general, may exist either in a condition of activity or chronicity.

The active form is most frequently found as an expression of direct local irritation; the chronic, as a result of systemic influences.

Acute, or active, periodontitis, if not resolved, or aborted, has a history which associates it with parulis. The inflammation commences commonly with a dull, heavy gnawing in the parts affected: this is the signification of simple vascular excitement. As the grade of the trouble advances, pain increases with it. The tooth seems to the touch of the patient to project beyond its fellows, and really does so. Occlusion of the jaws gives pain, which pain so grows in severity that the whole attention of the patient becomes directed eventually to the avoidance of contact. Finally, when not arrested, the action goes on to a suppurative condition,—the state of abscess; and the pus, discharging through a sinus which it creates for the convenience,—generally opening upon the gum opposite the diseased point,—establishes the condition of parulis.

Chronic periodontitis—subacute, as it might with as much propriety be termed—has a history markedly distinguishing it from the sthenic form: its causes are manifold. Mercurial ulitis is perhaps the most frequent. Scorbutus is a common cause; being abundantly expressed in every neighborhood where much pork is eaten to the exclusion of a mixed diet. Many cases have origin from the exanthems: of such causes scarlatina seems the most provocative; rubeola follows this in frequency. The phosphoric impression, as seen in connection with the workmen of match-factories, is a cause familiar to most surgeons. Neuralgic associations certainly beget irritability in the periodontal tissue, and, in cacoplastic states of the blood, may degenerate the nutritional changes. Rheumatism and gout, as toxical conditions, are frequently found from clinical experimentation to be the irritants supporting a