

stomatologist should be given an accurate statement by the internist of every body disturbance, so that all local treatment should proceed in therapeutic harmony with the general treatment.

Prognosis of pyorrhea or givivitis must largely depend on the possibility of obtaining a cure of the malnutritional factor. It is for this reason that the results of all physical examination, etc., should be in the hands of the stomatologist, so that he cannot only work in har-

mony with the physician, but also keep accurate record of any tissue changes that may take place.

When the preponderating importance of an accurate diagnosis of the predisposing cause of pyorrhea is appreciated, an important factor in the maintenance of our point of view is established to the effect that the dentist treating these and all other mouth diseases should be as efficiently educated in general medicine as is the specialist in any other department of medicine.

SOME STUDIES IN THE TREATMENT OF PYORRHEA ALVEOLARIS.*

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In the consideration of the treatment of pyorrhea alveolaris, as with any other disease, we must presuppose a knowledge of the disease. There are, however, so many conditions suggested as being causative factors in pyorrhea, that it is hardly possible to assume that any one of them is responsible for pyorrhea, to the exclusion of the rest. Among the conditions which have been advanced as being causative agents in pyorrhea might be mentioned syphilis, rheumatism, liver affections and autointoxication. These conditions and any other which will lower the resistance of the tissues must be considered as causative factors in pyorrhea, and their eradication, wherever possible, must be accomplished when the treatment of pyorrhea is undertaken.

Pyorrhea should be looked on as an infectious disease and treated as such. Its inception, then, is based on the resistance of the tissues to bacterial invasion, which must be lowered before the infec-

tion can be overcome. This means the building up of the resistive forces thruout the entire body, as it is difficult to perceive how the resistance, under these conditions, can be raised in the gum tissues alone. This must be done not only to throw off the present infection but also to guard against its recurrence. The lowered resistance to the tissues surrounding the teeth is due, in many cases, to the well known calcium deposits and irritations produced by faulty dental work. These conditions must be corrected.

If, however, we better understood the causes of pyorrhea and knew more about the tissues most vitally involved in making a repair, we would be able to treat this disease more intelligently, and there would result a greatly increased number of recoveries.

I have been greatly surprised at the wonderful recuperative power of the cementum. The literature relating to this tissue is confined, in the main, to its description and histologic structure, very little being said about its use. Cementum is the bond between the teeth and

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the bone, the tooth and bone seemingly being unable to form a union themselves. It seems to have about the same recuperative power as bone, and, furthermore, under proper conditions, cementum has the power to regenerate, after it has been cut in grooves or removed entirely from the root, provided a sufficient amount of cementum is left on the root from which regeneration can take place. If, however, a large portion of the cementum is removed and the remainder then weakened or entirely destroyed by such mild germicides as trichloroacetic or sulphuric acid, we should not expect to have any reformation of the cementum. When this is done, we might just as well take the next step at once and extract the tooth as wait and do the same thing at a later date or let nature throw it off herself.

Some time ago I had occasion to make an upper denture for a woman about 50 years old. She had worn full upper and lower dentures for some twenty years. On examining her mouth I noticed an enlarged and inflamed surface in the region of the second bicuspid. She informed me that it had been given her trouble for a long time and that she had to have a place cut out of the denture to avoid pressure on it. I opened into it and removed about one-third of the root of the second bicuspid which had been broken off when the tooth was extracted. The one side was flattened, but there were no sharp edges. A cross-section was made, and when put under the microscope it was found to be completely encased in cementum, the cementum on the flattened surface being nearly a third thicker than the other. A section made near the apex of the root showed a normal condition, with no variation in the thickness of the cementum. When this root was extracted, instead of breaking off at right angles, it split at an angle, and the cementum remaining not only regenerated sufficient tissue to cover that portion of the root that had been stripped of its cementum, but a third more. Dr. Fletch-

er has recorded a case in which the crown had been broken off in an attempted extraction, and the cementum had not only grown over the dentin but also had partly filled the canal. In this case, too, the cementum which had grown over the dentin was much thicker than normal. These cases seem to show that we may expect a restoration of tissue to a great extent, if not entirely, provided the conditions governing such a growth are ideal. This means that the new cementum forming must be removed daily or weekly in the overzealous use of scalers and files, nor must the healthy cementum and peridental membrane be removed. To get something, something must be left. The regeneration of the cementum must be the result of stimulation, brought about by the careful use of the affected teeth, and there must be an active blood supply. This can be encouraged by careful but not too diligent massage, and the absence of stringent mouth washes. The teeth must be cleaned, not merely brushed.

The bacteria commonly found in pyorrhea are constantly present in the mouth. If oral hygiene is a common practice with the individual, their numbers are greatly lessened; if not, they become very abundant. A person can go for years with ill fitting crowns and maintain an ideal condition for the development of pyorrhea. That is resistance; and when it is lowered, pyorrhea follows quickly. As long as he maintains that resistance, he is immune; but as soon as it is lowered, pyorrhea overtakes him. In order to recover, that resistance must be returned; otherwise the pyorrhea will only be kept in check, never cured. To prevent the formation of tartar deposits, after they have been removed, Epsom salt is most proficient. It might be said that constipation plays an important part in the formation of these deposits, and should form the sort of index in cases of chronic constipation.

There are a great many pathologic

conditions which have or are supposed to have their origin in mouth infections, of which pyorrhea is a common and important one; but it must be remembered that there are lots of people with arthritis who are wearing full upper and lower dentures and have been so doing long before they became afflicted with arthritis. There are a great many cases of arthritis that have their foci in the mouth, but these infections are sometimes present in cases of arthritis, the removal of which does not result in the disappearance of arthritis to any degree. In these cases, therefore, while there may be pyorrhea and other foci of infections present, and while every effort must be made to eradicate them, we must not devote all energy to these infections to the exclusion of foci in other parts of the body which may be the chief foci, and relief cannot be had until they are located and removed. Further, there are many roentgenograms which show rarefied areas around the apexes of the roots that are rightly interpreted as being foci of infection, but it must also be remembered that there are lots of others which show the same rarefied

areas which are not foci of infection, being localities in which there possibly once was a focus but which has been removed, and the tissue not yet completely filled in, which may never completely take place. This is amply proved by using an aspirator and removing a portion of the content of that supposed focus, only to find it to be nearly free from bacteria. Except in extreme cases, therefore, there is no justification for the extraction of a tooth, simply because a roentgenogram showed a rarefied area, unless substantiated by other diagnosis. The extraction of teeth, in an effort to check infections in other parts of the body, just because a roentgenogram showed a rarefied area, except in extreme cases, is to be condemned. If this practice is to be indulged in, it must have its completion in the extraction of all devitalized teeth whether or not the Roentgen ray shows a rarefied area to be present. Also all teeth that are pyorrheic would have to be extracted because they are foci of infection, and those that are not yet affected would have to be extracted because they might become foci of infection.

THE ETIOLOGY AND TREATMENT OF INTERSTITIAL GINGIVITIS.*

By Eugene S. Talbot, M. D., D. D. S., Chicago, Ill.

My researches on interstitial gingivitis and pyorrhea alveolaris¹ were published in book form in 1899. In this work every conceivable phase of the disease was studied on animals as well as man. The pathology was beautifully illustrated from its beginning to the formation of

abscess, on the one hand, and exfoliation of the teeth, on the other.

The object of this paper is to try to make clear the etiology, pathology and treatment based on the researches laid down in my work.

The tissues about the roots of the tooth may become diseased under extreme local irritation or from constitutional disease, but as a rule the progress of tissue building about the first and second set of teeth prevents tissue degen-

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¹Talbot, E. S.: *Interstitial Gingivitis or So-Called Pyorrhea Alveolaris*, Philadelphia, S. S. White Dental Manufacturing Company, 1899.