AURAL NEURALGIA OF DENTAL ORIGIN.*

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While aural neuralgia of dental origin is a well-known phenomenon and referred to in most text-books on diseases of the ear, at the same time the literature on the subject is meager and but little can be found. I do not at this moment recall having heard the subject discussed before this Society. I am quite sure that cases of severe aural pain, having its origin in some trouble with the teeth, are not infrequently seen by all of us. In order to bring the subject to your attention, with the hope of gaining something from the discussion, I present the following remarks.

Such patients present themselves with a history of severe earache lasting a longer or shorter time, pretty severe in character, entirely uninfluenced by the various measures which they have used for its relief or which their physician has used for its relief. The pain is of a rather constant type and does not suggest the throbbing, continually intensifying pain of an acute otitis media. On examination of the drum there is no sign of inflammatory action. The history of a cold, some form of exposure, possibly of a carious tooth, may be given after close questioning, but as a rule the patient does not refer the condition to the tooth.

Anatomically there is a connection between the inferior dental nerve which supplies the teeth of the lower jaw, and the otic ganglion. The otic ganglion is situated immediately below the foramen oval, and it is in close relation to the structures of the middle ear, the tensor tympani muscle, the Eustachian tube, the auriculotemporal nerve, and has a direct connection with the internal pterygoid of the inferior maxillary nerve. I have not been able to find any direct connection with the nerve supply of the upper teeth which come from the posterior, middle and anterior-superior dental branches of the submaxillary nerve, unless it be by way of the gasserian ganglion. As, however, this entire nerve net-work has many connections, it is quite possible that the irritation of the nerves of the roots of the upper teeth may also be referred back to the ear, although in my own experience most of the cases of aural neuralgia have been connected with affections of the teeth of the lower jaw rather than the upper. Exactly why pain in con-

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nection with the teeth should be referred back to the ear rather than any other of the points with which the dental nerves may be connected or be in relation, I cannot say. The following cases will illustrate the relationship between the teeth and the ear.

Case I. A woman who had suffered from severe neuralgia of the face and ear for many years, but without much if any relief, was finally referred to me by her family physician. Examination of the ear showed no trouble whatever. She was then referred to a dentist who extracted an upper jaw molar tooth on the root of which a wisdom tooth was growing cross-wise, and pressing on the dental nerve, somewhat similar in appearance and in results to those illustrated by Dr. Cryer in figures 118, 119, 120 and 121 in his text-book on "The Internal Anatomy of the Face." The removal of the tooth cured the pain in the ear.

Case II. A Jewish woman about 35 years of age, complained of severe neuralgic pain in the right ear. Examination of the ear showed no inflammatory action whatever, and after seeing her for a couple of times I was very sure in my mind that the cause of the pain was not in the ear. I referred her to a dentist who removed a lower molar, very much out of shape, and pressing directly on the inferior dental nerve. With the removal of this tooth all symptoms referable to the ear, immediately disappeared.

Case III. Woman of about the same age came complaining of severe, somewhat intermittent, neuralgic pain in the ear. Examination showed no inflammatory action visible in connection with the drum, and she was referred to a dentist who removed the last two upper molars on the right side, finding the root of the next to the last molar to have a little abscess cavity at its tip. The ear pain instantly stopped and has never returned.

Case IV. Young woman about 30, intermittent earache in the left ear several days' duration, relieved by hot applications and the hot water bottle. Examination of the drum showed no apparent trouble with the ear. The canine and the incisor next to it on the lower jaw, left side, have troubled her more or less, and hot things applied at this point will cause neuralgic twinges in the ear. This case was referred back to the dentist as being probably dental in origin, and after treatment of the teeth the pain in the ear disappeared.

Case V is somewhat different and is the only one of its class that I have seen. A boy of about 12 years of age had, as the result of a cold, an acute inflammation of the middle ear, accompanied with very severe pain. Free incision of the tympanic membrane was

done but no relief whatever followed, and the severe pain continued for a number of days, requiring morphia hypodermically for its relief. On giving him something in the way of a cold drink on the second or third day of the aural pain, an unusually severe paroxysm of pain in the ear followed. Noticing this I thought of the possibility of there being some trouble with the teeth which caused the severe pain, or at least intensified it. So the dentist was sent for, who found that the filling had come out of one of the lower teeth on the left side, and that there was also a delayed eruption of one of the bicuspid. He was very doubtful whether either one or the two together was sufficient to explain the intense pain, but after free incision of the gum over the expected bicuspid and the putting in of a temporary filling in the tooth, the pain entirely disappeared, and for the first time in three days, the boy ate something apparently with relish. The severe pain did not return although the inflammatory ear symptoms as such continued and the case later showed inflammation of the mastoid, for which a mastoid operation was done.

While no part of this paper, I may mention in connection with this case, that when the mastoid operation was done, only the two terminal cells at the tip were found involved; all the rest of the mastoid area being apparently perfectly normal. This also was somewhat unusual in my experience, as usually if the tip cells are involved, some of the intervening ones will be also.

When severe pain, for which there are no objective appearances to be found in the tympanic membrane or in the throat, appears, and the usual measures for palliative relief do little or no good, I think it always advisable to have the teeth carefully examined, with the probability that a good many of these cases of aural neuralgia will be found to be of dental origin.

As aurists I think we ought to have perhaps more knowledge in regard to the teeth than we have and more ability to locate in the teeth those pains for which we cannot or do not find sufficient cause in the ear.