Experiences on Labyrinthine Surgery.

First Report.*

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Ménière described a new disease of the labyrinth in 1861 establishing first an intimate connection between the ear labyrinth and vertigo. Although this disease was in commemoration of his epoch-making work called by his name, the later progress of the pathology of the labyrinth seemed to deny the real existence of this disease but to point only to a syndrome. However authors in these 20 years incline to again accept it as an individual disease of the peripheric labyrinth, although, concerning the nature of the disease, mere speculations have been expressed without any convincing proof.

In 1927 Portmann¹⁾ described a method of operation for the relief of aural vertigo. He opened the sacculus endolymphaticus, reaching the fossa endolymphatica through the mastoid. In these 2 years the writer had several occasions to practise the operation for the relief of vertigo and wishes here to report the results of the operation with some considerations regarding the nature of the disease.

Case Reports.

Case 1. A man aged 22 came to us with complaints of tinnitus, hardness of hearing in the right ear and attacks of vertigo. The history showed that the first attack occurred when 16 years old. The onset was sudden without any suspicious cause. He had vertigo, nausea and vomiting. He could not stand up. 10 days before the first attack he had tinnitus in the right ear. Since the first attack hearing began to diminish in the right ear. The first attack lasted half a day. He underwent conservative treatment for 4 months in the Policlinic of Internal Medicine. Deafness was gradually relieved until he could hear a telephone, but tinnitus was not improved and increased from 1941. In Sept. 1943,

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Case 2. A man aged 36 had a sudden onset of vertigo in May 1945, when he got out of bed at night. The first attack lasted several days and

during the attack he remained in bed. In May 1946 he had the second more severe attack than the first. In the beginning of July the third attack set on. This was most severe and continued till the 14th of the month when he was admitted. Extreme vertigo was accompanied by disturbance of equilibration and at first he was unable to stand up or to foot. A few days before admission he became able, it supported, to foot. He was dizzy almost every day. The sense of movement did not disappear even in bed.

Case 3. A man aged 21, had a sudden attack, when at work, of vertigo associated with nausea and vomiting. After 4 days from the first attack happened the second. In this case also nausea and vomiting accompanied it. In two weeks nausea and vomiting were relieved, but heaviness of head and vertigo did not reduce. The vertigo was accentuated by sudden movement of the head.

Case 4. A married woman, a teacher of an elementary school, aged 34 had vertigo and headache since Nov. 1947. Owing to attacks she was prevented from doing her work and confined in bed. In Nov. 1948 she visited the Gynecology Department, but no change was found and she was sent to Internal Medicine and from there to us. There was a history of previous middle ear-disease (left ear), but this had now cleared up.

Case 5. A married woman aged 41 had first tinnitus in the left ear without any suspicious cause in Aug. 1948. Towards the end of the month she had a severe attack of vertigo with a sense of rotation of external objects toward left. This attack lasted 4 hours, but until admission in Apr. of this year she had attacks eight times. Since Nov. of the last year she was dizzy almost every day and confined in bed. She took Luminal-tablets every day. Since a month before admission she had tinnitus in the right ear.

Results of the Operation and Discussion.

The results of the operation can be resumed as follows;

- 1) The retroauricular wound healed primarily in a week or 10 days.
- 2) In vertigo the writer obtained satisfactory results in all instances. Only in advanced cases the complete disappearance of vertigo took some time after the operation.
- 3) The disturbance of equilibration recovered in parallel with vertigo. For instance in the second case the progress after the operation was very favorable. Vertigo disappeared and the patient, who had been confined to bed, became able to walk freely.
- 4) In all cases heaviness of the head disappeared immediately after the operation.
- 5) Some patients complained of tinnitus or its temporary increase

even after the operation, but this symptom disappeared also with time.

6) The audibility, when its interruption was not so advanced, could be recovered.

As to the question whether or not such satisfactory results as above of the operation can remain permanently, the writer has no ample experience. The second patient had an attack after his return-home. How is this unexpected renewed attack explainable? At first the sequel depends upon the dexterity by the operation, that is to say, a suitable window must be settled on the saccus endolymphaticus and the window must be kept open as to avoid the increase of the endolabyrinthine pressure. Secondly, the attack may be considered as a mount in the course of recovery as after-shock of earthquake. And in the third place, if one makes a wrong diagnosis of vertigo, it will be naturally unable to obtain complete recovery through this operation. However, he became very vigorous after that and intended to return to his former occupation, when the writer visited him in Jan. of this year (one year after the operation).

The fourth patient was relieved from her one year's sick-bed by the operation. After return-home she could carry a pail of water over 120 yards without suffering any ill effects and she asked the writer, if she might resume her work as a teacher. She taught school, but had afterwards an attack and since then has been unwell. Concerning the cause of this new attack, it will be necessary to trace the further course of the illness.

When only the labyrinth of one side is affected, we can expect, that the disease will be recovered completely through the operation, but if the involvement of the labyrinth began on both sides from the onset, what would be the course after the operation? A possibility is that the same symptoms occur in the non-operated side after healing of the operated side.

However it may be, the writer made opening of the saccus endolymphaticus. In consequence all the symptoms disappeared at least immediately after the operation. And what establishes a connection between these two facts was simple allowing of the endolabyrinthine fluid to flow out. Here, the most important of the conditions within the labyrinth that have been altered by the operation legitimately considered to be the endolabyrinthine pressure and from the effective results the increase of the pressure might be regarded as the only or chief cause of this disease.

CONCLUSION.

5 patients who suffered from attacks of vertigo, were subjected to the Portmann's operation.

They suffered from vertigo and confined in bed before the operation and the operation made them possible to escape from so-called status

labyrinthicus and to return not only to their healthy daily life, but to their former occupation.

This one group of labyrinth diseases, on which the discharging treatment of labyrinthine fluid has a therapeutic effect, shows the following symptoms;

It begins usually with tinnitus of one side and before long gives rise suddenly to attacks of vertigo without any suspicious cause. At about the same time hearing begins to diminish. The deafness increases progressively. The vertigo is often severe and associated with sense of movement either of himself or of external objects. When attacks are severe, nausea and vomiting also occur. These accesses appear often paroxysmally. The duration and the severity of attacks are various. There are several minor accesses before and after a major attack and even between two attacks the patients are often in status labyrinthicus and suffer from dizziness and heaviness of the head on the affected side.

In view of the fact that these symptoms can be relieved relatively easily by means of draining the endolymph as described above, the writer came to the conclusion, that the occurrence of symptoms is due to the increase of the endolabyrinthine pressure. Although the access of vertigo is one of the important symptoms of this group of labyrinth diseases and affords often a clue to find the diseases clinically, the entity of the disease behind the symptoms must be an increase of the endolabyrinthine pressure or at least a process accompanied by it, proceeding continuously no matter what the clinical manifestations.

References.

- 1) Portmann, J. of Laryng., 1927, 42, 809.
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