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CYSTIC SEROUS MENINGITIS.*

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FOR want of a better title, I use that employed by Bing in a paper written by him in 1911. Bing, Bárány, and others have described cases of accumulation of subarachnoid fluid in relation to the anterior aspect of the cerebellum. In the following cases the symptoms and signs spoken of by Bárány were not demonstrable, but the cases furnish evidence that some pathological condition does occasionally occur.

The cases are as follows:—

CASE I.—Miss N., aged 30, was first seen in January 1925. She complained of giddiness, headache in the neighbourhood of the left ear and occipital region, and discharge from the ear.

She had a mastoid operation for chronic otorrhœa on the left side, in 1914, in another London hospital. Discharge disappeared, but recurred in July 1924. Pain has been present off and on since July 1924. Tinnitus, like steam escaping, has been intermittent since 1914, and deafness marked since the operation. There has always been a slight degree of vertigo since July, but she has also had severe attacks, and on two or three occasions has fallen. She had the feeling of falling to the left. Left occipital headache was more or less constant.

Examination.—Right ear: Some pain, and discharge in 1925; tympanic membrane is cicatricial, but no perforation is present.

Left ear: Radical mastoid operation has been performed. Granulations are situated in the region of the antrum.

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Weber to left; bone conduction (C2 fork) is diminished in both ears equally. Rinné is double negative to C2 fork. Complete testing with Edelmann forks and monochord was not attempted. Conversational voice, right 6 ft., left 2 ft.; whisper, right 3 ft., left 6 in. With noise apparatus in the right ear she could hear raised conversational voice in the left ear.

Nystagmus: Oscillation of both eyes when looking in any direction, more marked looking to the right; this was a slow movement, probably hysterical in nature. In addition, masked by the above, there was a fine nystagmus to the left; past-pointing to the left. Caloric tests in left ear; cold water produced nystagmus to the right and severe vertigo with nausea. When sitting or standing, the head and body were flexed to the left. Rombergism; she fell heavily to the left and backwards; doubtful dysdiadokokinesia. Inco-ordination of upper extremities was well marked. With eyes shut, the right hand travelled above the left when the fingers were brought together, and the right hand travelled to the left of the middle line.

Left arm movements are inco-ordinate; other cranial nerves normal; corneal sensation normal on both sides.

Plantar reflexes on both sides are flexor. All tendon reflexes are exaggerated but equal.

The granulations in the antrum disappeared under treatment.

Wassermann reaction was negative.

Hysterical symptoms and Rombergism became marked, and she was admitted to hospital.

Eyes normal; no papillœdema.

Cerebro-spinal fluid was examined three times, and was described as normal.

For six weeks she was kept in hospital and treated as a case of hysteria, but she became worse, and lay in bed with head flexed and body twisted to the left. It was decided to explore the posterior fossa on the left side. The dura mater was opened between the lateral sinus and the labyrinth. There was at once a gush of cerebro-spinal fluid. The cerebellum did not come into view, and a spatula obviously entered a large space. Silkworm gut and iodoform gauze were used as a drain and allowed to remain *in situ* for a week. In a few days she was able to sit upright in bed, and recovered co-ordinate use of the left arm. Weeks, however, elapsed before she could be persuaded to stand, but in three months she walked out of hospital, and later reported herself well, and eventually took a sea voyage alone.

Case II.—Miss R., aged 38, was examined on 4th May 1925. She had had discharge and earache in both ears off and on since scarlet fever in childhood. In 1918, an operation for acute mastoiditis in the left ear was performed in a London hospital, and during nine months

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following it she had five operations. Slight discharge has occurred off and on since the operations.

Deafness is constant in the left ear, but not progressive; no paracusis; tinnitus like ringing bells is present in the left ear. Severe attacks of giddiness occurred in July 1925, and several minor attacks daily since then; she feels as if falling to the left, and she has actually fallen.

Right ear: Tympanic membrane is cicatricial.

Left ear: Radical mastoid operation has been done; Eustachian tube is patent.

Weber to left; bone conduction is good in both ears. Rinné; right, positive; left, negative; low tone limit, right 24 d.v., left 100 d.v.; high tone limit, right 23,000, left 20,000; conversational voice, right 24 ft., left 6 in.; whisper, right 24 ft., left 2 in.

No spontaneous nystagmus, no past-pointing and no fistula sign are present.

17th November 1925: Pain in frontal, left parietal and left occipital regions; vertigo worse; she falls to left, and she fell four times last week. Left ear is dry. No nystagmus is observed during vertigo; no past-pointing. Reflexes are normal. She complains of general ill-health and inability to work.

At the end of November nothing new was observed, beyond possibly a slight inco-ordination of the left upper extremity and a doubtful nystagmus to the left; admitted into hospital on 4th December for observation. Eyes normal; Wassermann reaction negative; cerebro-spinal fluid normal.

After being in hospital under observation for some weeks she was discharged *in statu quo*. There did not seem to be any indication as to treatment.

In February 1926, she again came under observation. Symptoms were more severe; she complained, in addition to defective eyesight, of a numb feeling in the left arm and leg.

On 7th February, she had well-marked papillœdema in both eyes. General health had become much worse. Physical signs were as reported above. On 12th February, exploration of the posterior fossa on the left side was carried out, and a condition similar to that in Case I was found. There was a large subarachnoid space in relation to the dura mater between the lateral sinus and the labyrinth. This region was drained in the same way as in Case I.

Patient derived immediate relief, the headache disappeared, and the eyesight gradually improved. By 27th February, the papillœdema had disappeared, though there was some atrophy. She was discharged from hospital, free of giddiness and headache, but still complaining of numbness in the left arm.

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The clinical account of these cases is not as complete as I should like, but there were difficulties in investigation. The patients were bad witnesses, and hysterical.

Both patients had chronic mastoiditis and had undergone extensive operative treatment. In both, the labyrinths were intact. In both, the outstanding feature was the hysterical state, and in both, behind the hysterical phenomena, there was something indicating an organic lesion. This evidence you will be able to recognise in the description of the cases.

The gradual general debility, hysteria, giddiness, tinnitus and headache were of long standing before the patients came under my care. In both cases the patients were in a desperate condition, and at first I felt that nothing could be done. But eventually it occurred to me that possibly there might be a basis for the symptoms in some condition in the posterior fossa, behind the chronically inflamed mastoid region. In the first case I thought of the possibility of a chronic septic process behind the labyrinth, but in the second, after the experience of the first, the possibility of subarachnoid accumulation occurred to me.

At the operation, which consisted of incision of the dura mater between the lateral sinus and the labyrinth, there was no doubt of the fact that there was a considerable depth of subarachnoid space at the part where the cerebellum is usually in intimate contact with the dura mater, and that there was a free flow of cerebro-spinal fluid on making the opening into the space. Also, without doubt, there was immediate relief of the symptoms within twenty-four hours.

The object of this communication is to invite discussion on the possibility of pre-cerebellar accumulation of cerebro-spinal fluid, and the symptoms likely to be associated with such a condition.

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