XXXIV.

A CASE OF PARALYSIS OF THE ABDUCENS NERVE ASSOCIATED WITH ACUTE MASTOIDITIS.*

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During the past winter, Dr. Charles E. Perkins reported six cases of paralysis of the abducens nerve associated with a suppurative condition of the middle ear. He also collected ninety-five cases from the literature. In all of his cases the paralysis disappeared within a few months. Perkins claims that the paralysis is often due to the narrowing of Dorello's canal "from inflammatory thickening of its walls, or the thickening may arise from edema caused by inflammation in the neighboring dura or bone." This narrowing, however produced, would result in pressure upon the nerve or abducens paralysis; or the inflammation may extend to the nerve itself, causing neuritis with consequent loss of function.

In December, 1911, Dr. John R. Page reported a case of sinus thrombosis followed by abducens paralysis.

I wish to add the following case to those already recorded: J. D., 17 years old, was admitted to Dr. Robert Lewis' service at the New York Eye and Ear Infirmary, September 7, 1912. Immediately after sea bathing, a month before admission, the patient began to have pain and a ringing sensation in the right ear, and the following day the ear began to discharge. This discharge was continuous up to the time of admission with very little pain. He had considerable headache over the right temporal region. There had been no previous trouble with the ear.

Examination of the right ear showed a perforation at the middle of the posterior quadrant, and the canal was filled with pus. There was no mastoid tenderness. The left ear was negative. General physical examination, negative. Tem-

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perature, 100.8°; pulse, 92; respirations, 20. September 9, 1912, the patient has had constant pain on the right side of the head. Diplopia developed six days previous. There occurred a paralysis of the right rectus muscle. Nausea and vomiting came on two or three times a day for six days. There was no mastoid tenderness. Free purulent discharge from canal. Knee-jerk reflex diminished on right side. Kernig sign negative. Rhomberg and Babinski reflex negative. Slight papillitis in right eye. No nystagmus. Temperature, 105°; pulse, 112; respirations, 28. Urine examination showed slight trace of albumin. Examination of pus from canal showed principally epithelial cells. Blood count: White blood corpuscles, 10,000; red blood corpuscles, 5,400,000. Differential count: Large mononuclears, 4 per cent; small mononuclears, 17 per cent; polynuclears, 79 per cent. Blood culture (15 cc. of blood) showed two colonies of *staphylococcus aureus* in twenty-four hours. X-ray picture of mastoids showed that they were diploetic and both sinuses well forward. On the right side was a small oval shadow about half way down below the knee and posterior border of the sinus, which was either a cell or perisinus abscess. (This proved to be a small cell over a large opening of the mastoid vein into the sinus.) Wassermann negative.

On the afternoon of September 9th a simple mastoidectomy was performed, on account of the paralysis of the sixth nerve, the high temperature, the peculiar symptoms and because of the X-ray finding. The mastoid was found to be quite sclerotic with only a few fairly large cells which were filled with granulations. No free pus was found. The sinus was intentionally exposed throughout a great part. No dura was exposed. The antrum was opened and curetted out, the tip was completely removed. The wound was partially closed with clamps and packed with iodoform gauze.

A lumbar puncture was performed on the table; 15 cc. of clear fluid under slight pressure was withdrawn. This contained no traces of albumin. There was no appreciable sediment in the centrifuged specimen. The culture of this fluid was negative after twenty-four hours.

The following day the temperature was 101.2°; pulse, 84; respirations, 24. September 12th, wound cleaned. Slight discharge from canal. Patient says diplopia is less marked.

There is a well marked nystagmus on rotation of the eyes to the left. There is no nystagmus to the opposite side. With an object held at a distance of about a foot from the eyes, diplopia is noticed as soon as the object moving from left to right passes the midline of the body. Urotropin was given every four hours. Examination of the eyes showed that the papillitis had practically subsided. September 26th, patient complained of slight headache. September 30th, distinct exophthalmos on right side. There is some tenderness over the right frontal sinus. X-ray negative. October 24th, wound healed and patient has left the hospital.

Perkins in his paper remarks that intense headache, "especially in frontal region, severe pain in the eye or deep in the orbit, neuralgia of the fifth nerve, or paralysis of some of the muscles supplied by it, are symptoms, one or more of which have been noticed in fifty-five out of ninety-five cases reported." This means that there is some interference with the Gasserian ganglion by the process going on at the apex of the petrous bone. Gradenigo first called attention to the severe pains in the frontal and parietal region associated with purulent discharge from the ear and abducens paralysis, and therefore this is called Gradenigo's syndrome.