HEMIPLEGIA FOLLOWING TONSILLECTOMY.*

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This case occurred in the New York Eye and Ear Infirmary in the service of Dr. Kenefick. The patient was a Polish boy, nineteen years of age, employed as a porter in the institution. Particular effort was made to elicit a history of epileptic seizures or convulsions in early life, but nothing was found in the previous history that had any bearing on the course of the case. For at least two months he had been complaining of indefinite pains, of sore throat, headache, and particularly of constipation, and had been treated by Dr. Dixon, receiving the same attention as the other hospital help while doing his usual work. He was never confined to bed, so that these symptoms, while they may be important, were not severe enough to give him any great inconvenience. They usually disappeared after a brisk cathartic. Finally, about February 1, he came to Dr. Dixon complaining of sore throat and hoarseness and was referred to the house surgeon for more extended examination. Examination of the nose and accessory sinuses was practically negative, but there was present a chronic granular pharyngitis, enlarged tonsils of the follicular type, crypts filled with cheesy exudate, and a subacute laryngitis. There was no lymphatic involvement and so far as ascertained, no acute process was present. The patient was placed on mild treatment for the throat, and it was recommended that the tonsils be removed at a later date, on the basis that they were the exciting factors. Permission was obtained from the superintendent, and the patient was admitted to the ward in Dr. Kenefick's service.

Urine examination was negative. Physical examination was negative except for an indefinite soft systolic murmur at the cardiac apex, not transmitted and not variable. There was apparently no contra-indication to operation. Temperature, 97; pulse, 80; respiration, 20.

On February 4, the tonsils were removed under gas-ether anesthesia, the dissection method being employed. The tonsils were large and adherent in places. The only incident during the operation was that at one time the patient came out from under the influence of the anesthetic and coughed considerably. This delayed the operation time slightly until he was well under again, and caused more, though not excessive, hemorrhage than ordinarily.

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Perhaps not more than fifteen minutes in all were consumed in the actual operation, and the patient left the table in good condition. In the ward about half an hour after the operation, there was considerable venous bleeding from the right tonsillar fossa, but this was easily controlled by one of the resident staff, who employed pressure in the fossa with a sponge saturated with adrenalin and bismuth subnitrate. The next morning there was no bleeding; temperature, 99.8; pulse, 92; respiration, 20. The patient spent a comfortable day.

During the next day (February 6) he complained of headache. This was attributed to constipation, and the patient was given a saline. The next morning the headache had disappeared, and the patient took it upon himself, very lightly clad, to go up on the roof garden in a cold wind, and, as afterwards developed, he was also indiscrete in his diet. That night at 11:30 he had a chill accompanied by pain in the region of the right frontal sinus. The temperature during the chill was 105 degrees.

Nasal examination on the morning of February 8 showed a rather large right middle turbinate with a slight mucous discharge from the middle fossa. During that day he had two chills, about four hours apart, lasting ten minutes each. The temperature in the latter chill reached 106.2°. Nasal treatment was continued, and the next morning (February 9), the fifth day after the operation, he seemed much better (temperature, 100.6°), until in the afternoon, when he became restless. The temperature went up to 105°, and he had a convulsion at about 8 o'clock at night.

The next day (February 10), it was noticed that the left side, particularly the arm, was weak, and to a lesser degree, the leg. Blood count showed 15,600 leucocytes, with practically a normal differential count. Blood culture taken the same day was negative at twenty-two hours and at seventy-two hours. The throat culture was negative to Klebs-Loeffler bacillus. Lungs negative; cardiac murmur about the same as before operation.

On February 11, seven days after the operation, he was restless in the morning but became stupid in the afternoon. The nasal condition had completely cleared up; but a left-sided paralysis had fully developed. The reflexes were not as marked as compared with the sound side, but there was some spasticity; no Koenig or Babinski signs. Disturbances of sensation were present. He could move the toes of the left foot and raise the left leg slightly, but the rest of the left side was powerless. Dr. Ramsey Hunt made a hurried examination, and diagnosed cerebral embolism. Lumbar

puncture showed 181 cells per c. mm. Globulins, plus; Fehlings, plus; culture, negative. Both the blood and the spinal fluid gave a negative Wassermann.

During the next two days his condition became increasingly worse. He had severe headache, was restless and delirious at times, and the neck became stiff. The eyegrounds were negative. A second spinal puncture showed 111 cells per c. mm.; otherwise the same as on the previous examination.

On February 9, one or two convulsions were recorded, beginning with a twitching and sucking of the lips; then the left eye, then the muscles of the face became involved, the seizure extending to the left side of the body, the left arm being held rigid during the convulsion; afterwards it was paralyzed.

The next day there were five convulsions, each lasting ten to thirty-five minutes. Sometimes only the face was affected and at other times the whole body. The temperature was between 102 and 103 degrees. The stiffness of the neck continued, and during the next day (February 14) the condition passed from semi-consciousness to coma, with slight convulsions. The breathing became of the Cheyne-Stokes type, and death occurred at noon, the tenth day after the tonsillectomy. It was not possible to obtain a post-mortem.

In the absence of a postmortem only a probable diagnosis can be made. The question arises whether the indefinite complaints for weeks preceding the tonsillectomy were the prodromal symptoms of a meningitis which the operation precipitated. Then again the hemorrhage and cough during the operation and the hemorrhage later might have been the source of an embolus. Finally, the exposure on the third day, with the subsequent frontal, and perhaps sphenoidal, sinus inflammation may have been the source of an infection through some open venous pathway.

The finding of a negative spinal fluid culture on two occasions by reliable workers would seem to rule out the presence of a general meningitis. An extremely probable diagnosis seems to be an embolism in the motor area, septic or non-septic in type, probably the former, sufficient to produce a left hemiplegia, causing irritation in the motor area, as shown by the Jacksonian type of convulsions, and causing an adjacent localized meningitis sufficient to raise the cells in the spinal fluid without producing a general meningitis due to any discoverable organism.

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