

XLIII.

ABSCESS OF THE LEFT FRONTAL LOBE FOLLOWING SUPPURATION OF THE FRONTAL SINUS; REPORT OF A CASE AND EXHIBITION OF SPECIMEN.*

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Mr. K., age twenty-three years, first consulted me on November 5, 1917, complaining of pain over right frontal region, said he had taken cold four days previous and this pain was the result. He also volunteered the information that his father had always suffered from the same type of neuralgic headaches as he had.

Examination showed both nasal cavities to be very free, no unusual hypertrophies of the turbinates and a moderately straight septum; mucous membrane congested and swollen, especially over the right middle turbinate; thick yellow pus coming from the nasofrontal duct on the right side, flowing down over the middle turbinate.

The region of the duct and middle turbinate was shrunk with cocain and suction applied, this giving relief from pain. The patient was seen daily, the pain returning each morning and being relieved after treatment. On the fourth day, November 9th, he complained of some pain over the left frontal region, but not as bad as over the right, and pus was seen flowing down over the left middle turbinate and from the left nasofrontal duct. The same treatment was applied to the left side. Patient was seen daily for thirteen days. At no time was the pain severe enough to compel him to seek relief by taking any analgesics. The pain became less each day, and the discharge decreased in proportion, so that by November 17th, the thirteenth day, the patient was discharged, entirely free from pus and pain, and returned to work.

On December 27th the patient returned, saying he had taken

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another cold a few days previous and that his pain and discharge had returned. Examination then showed pus coming from both frontal sinuses, and the pain was distributed equally over both sides and across the bridge of the nose. He was then seen and treated three times, December 27th, 28th and 31st, and showed prompt response to treatment. The man being a railroad employe, the matter was talked over with the chief surgeon, and it was decided that perhaps a vaccine might be of benefit in raising his resistance against taking cold and future attacks. Accordingly, he was referred to the chief surgeon, who reported that he administered four doses of Schieffelin's influenza vaccine. The dose did not go above 40/100 cubic centimeter, and there was no reaction.

Although he was told to return for observation, I did not again see the patient from December 31, 1917, until January 18, 1918, when he returned saying that the previous night he had suffered intense pain, that it was well across the forehead, but more severe on the left side. On examination no pus was seen. Shrinking the middle turbinates and the nasofrontal ducts on both sides failed to reveal pus. Patient was told to return the next day, which he did, and reported the pain no better and no relief from treatment previous day. Temperature and pulse were normal, complained of light hurting his eyes, pupils were equal, and no pus could be elicited. The patient was again referred to the chief surgeon, with a request that an X-ray be taken. This could not be done that day, owing to the previous engagements of the roentgenologist; but an appointment was made for the following day. However, the boy telephoned the chief surgeon, on the following day, that he did not feel like having his plate taken that day and would like to change his appointment to the day following, and, as he lived out some distance, this was consented to by the chief surgeon. Early on the morning of January 22, 1918, the chief surgeon received a telephone call from the boy's sister, saying the boy had had a very bad night; cried out repeatedly with pain. A near by local surgeon of the railroad was sent to see him, who gave the following account of the case: Complaining of headache, but not as severe as it had been during the night; was dizzy; had vomited once; pupils were equal; no nystagmus; pulse good and strong; temperature, 101; and

tongue very foul. He gave calomel and a capsule containing aspirin, grains four, and salol, grains two, for headache. After the second capsule the patient quieted down and went to sleep; but his breathing soon became stertorous; he became unconscious; and was dead three hours after he was last seen.

Autopsy showed no general involvement of the meninges and no distention of the brain substance. The dura was found adherent to the frontal bone on the posterior surface; also adherent to brain substance over left frontal lobe. On removal of the brain from the cranial cavity yellow pus flowed freely from a perforation in the dura. Corresponding to this perforation a necrotic area was found on the frontal bone about two millimeters in diameter, which led directly into the left frontal sinus. The sinus itself measured about 1.5 c. c. anteroposteriorly, 3 c. c. transversely, and 1.5 c. c. from the top to the floor. Located in the left frontal lobe was a well defined abscess containing from one and a half to two ounces of pus, causing considerable softening and destruction of the brain substance, but not involving any vital areas. The walls of the abscess were everywhere soft and friable, and the necrosis had extended from the surface all the way through the frontal lobe and had perforated into the left lateral ventricle, which was full of pus, but did not show any lesion except the perforation. Examination of the pus showed *staphylococcus aureus*.

Remarks.—My reasons for reporting this case in detail are several. First, it is my opinion that if the patient could have been kept under close observation at the time he was taking his vaccine, and at the cessation of his discharge, and if he had had his X-ray taken when advised, operative procedure might have saved his life. I think he still had a chance of recovery up to the last morning of his life, when the brain abscess ruptured into the lateral ventricle, with resultant coma and death.

That large abscesses do occur in the silent areas of the brain without producing localizing symptoms is too well known to dwell upon.

Krause, in his *Surgery of the Brain*, reports a similar case in a woman, twenty-three years old. The sinus was

operated upon first, and later, when a fistulous tract was found leading from the sinus, an osteoplastic flap was made, and about half a wineglass full of pus evacuated. The patient did well for a time, but soon extension ensued and the patient died. No autopsy was permitted.

Skillern states, in his book, "The Accessory Sinuses of the Nose," that "Complications from the frontal sinus occur much oftener in (a) older individuals, (b) in males, (c) on the left side." He does not give data in support of this statement, however, and one suspects that they may be merely accidents of a limited body of statistics.

Krause's case was on the left side. It will be recalled that in my case when first seen the pain was more severe on the right side and remained so until the last attack. There was no extension of the left sinus over to the right side that might account for this, as the septum was directly in the median line.

Skillern also says that owing to the paucity of material and lack of sufficient American data, his section on chronic complications of the frontal sinus is based largely on Gerber's work done in Berlin in 1909. Gerber states that complications follow chronic frontal sinusitis in about five per cent of the cases, but admits that his percentage is higher than most rhinologists.

Several questions purport themselves in connection with this case:

Did the vaccine have anything to do with the cessation of the discharge?

Was the abscess forming on the left side from the beginning of the infection, or did the discharge cease when the erosion took place in the posterior bony wall of the sinus? In which event one would have to concede a cure in the right sinus.

One further consideration is: Why should this complication occur in a sinus which apparently had free drainage and which did not manifest the usual symptoms of confined pus? This would hardly be expected, even in view of the capacity of staphylococcus aureus for destruction of bone and abscess formation.

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