

night time. Toward the end of January swelling beneath the right eyebrow also returned, with marked tenderness on pressure over the central portion of the sinus, while sleep at night became almost impossible. During this period the patient was under Dr. Wilson's care; but medical treatment failing to afford relief, on February 22nd he referred him to me and he was placed in the Western Hospital for operation.

*Examination.*—Head feels hot continually, temperature ranges between 99 and 100, soils two or three handkerchiefs a day from right nasal hemorrhage, complains of intolerable bursting head pains and entire absence of sleep. There is also drooping of tissues beneath the floor of the sinus and much tenderness on pressure. The right side of the septum was much thickened and spongy, the anterior end of the middle turbinal also was enlarged. Both were hemorrhagic, but there was very little pus visible.

My first effort was to give relief by intranasal treatment; so under cocaine and adrenalin I reduced by operation the hypertrophied tissues, but failed either to penetrate the infundibulum or give relief to the frontal sinus. So, five days later, under chloroform anesthesia, assisted by Dr. Wilson, I did a modified Ogston-Luc operation; that is, after chiseling the usual opening into the frontal sinus above the superciliary ridge, instead of merely dilating the fronto-nasal passage and putting in a small drainage tube, I drilled a larger opening, destroying the anterior ethmoid cells; and placed a rubber drainage tube from the floor of the frontal sinus down through the nasal passage and out through the nostril.

On opening the sinus there was very free hemorrhage, accompanied by purulent matter. The blood vessels were enlarged. The mucus membrane, particularly on the anterior wall, was swollen and spongy, that on the cerebral side of the cavity being little affected. After curetting away freely all adventitious tissue, the sinus was washed out with hot boracic acid solution, then swabbed with per-oxide of hydrogen, and the operation completed. The drainage tube was next inserted and lavage repeated, both from above and below. Finally, the wound was closed by silk sutures and padded and bound.

A swab was taken from the sinus at the time of the operation. Examination revealed pus cells mixed with blood. Another swab taken ten days later from the sinus, quite free from blood, proved the disease to be one of pure pneumococcus infection.

Points with regard to temperature. Immediately before the operation the temperature was 99 1-5, three hours later it was 101 1-5, and still two hours later at eight o'clock in the evening it had risen to 104 1-2 and was accompanied by delirium. Throughout the night the patient could with difficulty be kept in bed. In the morning the temperature dropped to 101 1-5, the delirium was over and did not again appear. Still the