FOREIGN BODY (INSTRUMENT) IN THE SPHENOID SINUS.*

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Foreign bodies have been lost in almost every conceivable cavity of the human body but until recently the sphenoidal sinus has been happily free. This is owing to its peculiarly protected position in the nose with its small ostium high up behind the middle turbinate.

Latterly, however, since the work of Onodi, Hajek, Killian and others has shown us the surgical importance of this space and the frequency with which it may be the seat of pathological process, the sphenoidal sinus, too, has proved its possibility as a receptacle for extraneous objects. Oppikorfer, in 100 autopsies exposing 200 sinuses, found stomach contents nine times or four and one-half per cent, five times on one side only and twice on both. He further quotes Wertheim, Minder and Martin who met with similar conditions and who claim that the vomitus entered the cavities during the life of the patient. Oppikorfer on the other hand, believes it to have happened after death or shortly before with the patient in a profound coma. He bases his contention on the fact that in all the cases reported, the mucous membranes of the sinus in some were perfectly normal, in less than one-half there was a catarrhal inflammation and none contained pus. He thinks it scarcely possible that stomach material could remain in contact with so sensitive a tissue as the lining membrane of this cavity for any length of time without causing a marked purulent reaction. Further, in two of his cases which were reliably watched during the illness and where positively no vomiting had occurred during life, the above condition was found on section. This, he states, was due to the shaking up of the cadavers during transit.

Tunis² also reports the results of one hundred autopsies exposing two hundred sinuses in the pathological department of the Allgemeines Krankenhaus in 1909. The writer was in Vienna at the time and had the pleasant privilege of witnessing some of the sections and assisting in going over the case-histories. In none of these was anything of a foreign nature found. These, of course, were taken at random and represented all the usual causes of death, which tends to bear out Oppikorfer's

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contention. The ostium sphenoidale must be extremely large and surrounding parts relaxed or perhaps missing as in a marked case of atrophic rhinitis, for stomach contents to enter this recess during life.

Chiari³ reports a case of a man brought to the surgical division of the Allgemeines Krankenhaus with a bullet in his sphenoidal sinus as shown by the Roentgen ray. This the professor removed by the nasal route and the patient recovered. It is the first time, so far as I am able to ascertain, that a bullet had been taken from this sinus through the nose.

Voislavsky⁴ is the first to record a foreign body in the sphenoid as the result of operative interference. Briefly it is as follows: Man, aged 38, with pan-sinusitis, on February 10, 1910, had his middle turbinate and ethmoid cells removed. Following this, while local applications were being made, the cotton became detached from the applicator and diligent search failed to find it. The doctor was called from the room and on his return was shown a piece of cotton which patient had blown from his nose during the absence and which was thought to be the lost swab. On October 10, while violently blowing his nose, the patient expelled a bit of cotton which looked as if it had been roled on an applicator.

On April 22 of the following year, this same patient, who was a physician, having a bad cold introduced some adrenal solution on a cotton swab into the right nostril to reduce the congestion of the inflamed mucous membrane. He again lost the cotton and on May 22, Dr. Voislavsky removed it from the sphenoidal cavity by means of a bent probe after a stay of just one month.

Charlotte F., aged 19, milliner, called November, 1911, complaining of more or less difficulty in nasal breathing, worse at night. She had been to two clinics where operation had been advised. The septum was markedly deviated to the left impinging on the turbinates while the concavity on the right was almost completely filled with a large bullous middle turbinate. After explaining to the patient the objects and necessity of operating she reluctantly consented. On December 5, 1911, under cocain and adrenalin, I removed the left middle turbinate. This was so large and crowded between the septum and external wall that I was unable to remove it en masse and it came away in two portions. Then I noticed a small opening in the anterior wall of the sphenoid through which the glistening mucous membrane lining was plainly seen.

The patient was of an intensely neurotic temperament who flinched each time an instrument approached the nose and kept up a continuous stream of inquiries of "what are you going to do now?" interspersed with expressions of fear. Hemorrhage was moderately brisk and after a short wait it was seen that nothing remained but to smooth off a few rough projections from the stump. While doing so with the Hartmann alligator forceps (Figure 1), Miss F. suddenly twisted her head to one side and I felt something give way in the instrument. On its withdrawal, the terminal section was found missing (a—Figure

Figure 1.

1, having become disarticulated from b—Figure 1). The patient saw this too, which, as can be readily imagined, did not tend to allay any of her previous apprehensions and nervousness. Meanwhile hemorrhage was fairly free and diligent search failed to find the "missing link." After working until it was clear nothing further could be accomplished under those circumstances and fearing that manipulating in the dark might push the part into the antrum or orbit, the nose was lightly packed and patient sent home. Thirty-six hours later the gauze was removed but clots and oozing precluded a satisfactory in-

spection of the field. On December 8, two x-ray pictures, antero-posteriorly and laterally were taken, but were too faint to be of any assistance. On December 10, nose was again inspected and probed without touching anything of a foreign nature. Oozing had been more or less continuous but no hemorrhage.

Figure 2.

At 11 o'clock that evening she suddenly started to bleed profusely from the right side and continued until 4 a. m., when the flow stopped spontaneously. Patient came to the office later that morning but owing to the recent hemorrhage nothing was attempted. On December 16, Roentgen pictures were taken

again and this time successfully as shown in Figure 2. These proved clearly the presence of the instrument in the right sphenoidal sinus.

Our course was now plainer. As long as the body lay in this cavity probably no harm would ensue by waiting until all reaction had subsided. Therefore she was advised to return to her work particularly as her busy season was about to start. She reported at bi- or tri-weekly intervals for control when it was noticed that granulations were springing up about the entrance to the sphenoid. A probe was passed through these readily, but failed to touch the corpus alienum.

On May 9, 1912, the second operation was performed. This time to overcome the patient's nervous excitability, she was given morph. sulf. gr. $\frac{1}{4}$, hyoscine hyd. gr. $\frac{1}{100}$ per hypo. two hours before beginning. It worked almost like a charm. She became much quieter, at times somnolent and I believe I was able to use more cocain than had the hypnotic not been given. Free use of epinephrin shrank the granulations decidedly and with Hajek's sphenoidal forceps the anterior wall was taken away close to the floor. A bent probe now touched something metallic on the floor of the sinus and a little manipulating brought it to view. A dressing forceps easily delivered the missing part much to the gratification of both operator and patient. The procedure was painless, took about five minutes, and bleeding was so slight as to demand no packing.

The accident impressed this fact forcibly upon me: When the head is in the usual position for operating on the middle turbinate, especially its posterior half, the anterior wall of the sphenoidal body assumes the position of the floor of the middle meatus. Therefore, should there be a sufficiently large opening in the anterior wall objects dropped from the middle meatus can fall readily into the cavity in question. It is well to remember this fact when pieces of cotton are lost in the nose. The dimensions of the part are 17x6x4 mm.

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