it was possible to remove with the snare a second and larger segment of the middle turbinal. This cut the cavity at a point where the inside measurement was seven-eighths of an inch ; but of course the section was oblique. After this suppuration gradually subsided, and the patient's headaches disappeared almost entirely.

AN UNUSUAL CASE OF EMPYEMA OF THE MAXILLARY ANTRUM.¹

By PERRY G. GOLDSMITH, M.D.,

Aurist, Ontario Institute for Deaf and Dumb ; Laryngologist, Gravenhurst Sanatorium.

MRS. T——, aged thirty-five, family history unimportant, consulted me two and a half years ago for right nasal obstruction, with nasal and post-nasal discharge. There was a history of gradual failure of health for some years, accompanied by so much muco-purulent expectoration that she was supposed to be suffering from consumption, though no definite lesion had been found. Pus was noticed coming from the middle meatus of the right nostril, in which situation were also found many small granulations and polypi. Transillumination showed a somewhat dull light beneath each eye, very much more marked on the right side. An exploratory puncture through the inferior nasal meatus showed foul pus in the right antrum. The middle meatal region was then cleared of granulations and polypi. As the patient lived some thirty miles from my office, and was unable to remain in town longer than a few days, alveolar drainage was decided upon, which necessitated the sacrifice of a healthy tooth. Lavage of the cavity was performed by the patient daily for two weeks, using an indifferent aseptic fluid, resulting in a permanent cure of her nasal trouble, with marked benefit to the post-nasal discharge. I might also add that for several years before I saw her she had been having polypi removed, but as the antral mischief was untouched they readily recurred.

I did not again see the patient until about nine months ago, when, following an attack of what she called *grippe*, associated with severe faucial neuralgia, considerable purulent discharge was noticed in her left (that is, opposite) nostril. The purulent expectoration was rapidly increased. I diagnosed a purulent sinusitis in this side, probably an acute exacerbation of a chronic and

¹ Communicated to the British Laryngological, Rhinological, and Otological Association, November 13, 1903.

comparatively quiet case. When I first saw this patient there was nothing to make me think a purulent focus existed in her left antrum, nor were there any evidences now on rhinoscopic examination other than the purulent discharge to lead me to suspect antral disease. The middle meatal region could not be thoroughly inspected, owing to a deviation of the septum. Transillumination, however, showed a marked difference in the two sides, the left now being the dark one, while exploratory puncture through the nose allowed foul pus to be washed out.

My patient having been cured of one side so easily, wished to have this one treated by alveolar lavage also. The third molar, normal in every respect, was removed, and after considerable difficulty, owing to the thickness of the bone, communication was gained with the antrum. A spiral wire drainage-tube with a small shoulder was inserted, and the patient returned to her home. Her trouble, however, instead of being about over, had really only begun. All went well for a few days, when her husband undertook to irrigate the antrum for her. He succeeded in pushing the drain-tube, the shoulder of which came off, into the antrum. On learning how matters stood, I advised her to return immediately, so that I might remove it. She did not come, however, until five weeks later. Since the tube passed into the antrum the discharge had very materially increased, though she was irrigating the cavity through the alveolus, the opening of which was now quite small. It was perfectly clear that the metal tube was, and always would be, an irritant, and should be removed. A small plate of bone was therefore removed from the canine fossa, permitting thorough exploration of the antrum. The hæmorrhage was very free, but was controlled by gauze-packing and adrenaline.

I expected to find the tube quite easily, but after searching the cavity very thoroughly I could not find it, and was at a loss to know where it had gone. A very rare condition of the antral cavity was found, viz., a large polypus attached to the inner wall. This was removed, but unfortunately lost, so that I cannot say as to its exact structure. There was an opening in the posterior wall of the antrum a quarter of an inch in diameter and another in the external wall somewhat smaller in size. On passing a cotton-tipped probe into either of these openings blood and pus would be forced into the naso-pharynx, showing clearly the sinus communicated with the zygomatic fossa, and from there into the naso-pharynx. A probe passed into the opening of the posterior wall could be felt by post-nasal palpation. It then occurred to me that the tube had probably passed backwards, but where it was I could

not determine. The mucous membrane having been thoroughly curetted, a gauze packing was passed into both sinuses and antrum, the external wound being left open. A counter opening, as usually made into the nose, from which the cavity is dressed, was not made because actual inspection was necessary to pack the sinuses.

Three days after the operation the patient brought me the tube, it having passed back into her throat. On one subsequent occasion I packed the sinus and antrum rather lightly, owing to the tight packing being painful. Eight hours afterwards she came to my office, saying there was something in her throat, and on looking into her mouth the gauze strip was hanging behind her palate, and the entire piece was removed through the naso-pharynx and mouth. On passing the tip of an irrigating tube into the opening of the external antral wall, all the fluid would return through the opposite nostril. The nasal and post-nasal discharge rapidly practically ceased, as well as the constant expectoration of muco-purulent matter. The patient said she felt much better in every way, having lost a dull heavy feeling that had for years existed in her head. It was essential in this case to keep the canine fossa opening patent, so a dental plate with the tube was attached to the tooth. Daily irrigation was carried out by the patient for three months, and as all discharge had stopped it was removed.

At a recent meeting of the British Laryngological, Rhinological, and Otological Association, Dr. McIntyre, the President, showed a case in which the tube had passed into the antrum, and remarked that had a gold tube with a well-beaten flange been used the accident would not have occurred.