the anterior plate of the frontal bone, had compressed the duct of the frontal sinus, causing retention of secretion. At the operation, however, it was found that the fluctuating swelling did not communicate with the nose. The presence of the propepton was not explained. Latterly the growth had increased rapidly, and caused pain, so that it was possibly a sarcoma.

Herr ISRAI. *Case of Pemphigus Laryngis.*

The patient, a poorly nourished woman of forty-two, gave a history of six weeks' illness. Her attention was directed to her throat by stabbing pain in the larynx on swallowing. This increased so that she could take little food. The gums are swollen and spongy, and bleed at a touch. The pharynx is injected. The epiglottis is bent like the spout of a jug; its free edge is injected and swollen. On the point of the epiglottis there is a spot about as big as a lentil seed, covered with a yellowish white coating; on the left side a bleb of about the same size, with clear watery contents, reaches from the anterior surface over the free edge to the posterior surface. False cords reddened, slightly swollen. There is no rash on the skin of the body, but on the labia majora are numerous vesicles, from the size of a millet grain to that of a lentil seed, with clear watery contents. There are also larger superficial erosions with yellowish white base. On the under surface of both thighs are numerous closely placed, roundish, brownish, pigmented spots, no doubt the remains of vesicles. The history and clinical picture, and the shallow erosions which heal without scarring, show the disease to be pemphigus. The characteristic appearances may be developed in the larynx without any changes taking place in the skin, or on other mucous membranes. The disease is chronic and the prognosis bad, as it occurs chiefly in cachectic subjects. Arsenic and tonics may be given, and cocaine applied locally to relieve the dysphagia.

Herr ZWILLINGER agreed with the diagnosis, although the appearances were not absolutely characteristic. Cocaine gave only temporary relief.

Herr ISRAI stated that he could not have made the diagnosis unless he had seen the case twenty-four hours before. He promised to exhibit it again when a fresh eruption occurred. *William Lamb.*

ABSTRACTS.

MOUTH, &c.

Goodale, J. L. (Boston).—*On the Absorption of Foreign Bodies through the Faucial Tonsils in Man, with reference to the Origin of Infective Processes.* "Archiv für Laryng. und Rhin.," Bd. VII., Heft 1.

B. FRANKEL, in 1895, drew attention to the frequency with which an acute lacunar tonsillitis is produced by an injury or an inflammation of the nasal

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mucous membrane. From this observation, as well as for the theoretical reason that a direct infection of the tonsil through its epithelium against the escaping stream of lymph and leucocytes is associated with difficulties, he concluded that, in these cases at least, the acute lacunar tonsillitis is caused by a primary infection of the nasal mucous membrane, which is conveyed to the tonsils by way of the lymph stream. His histological investigations demonstrated the presence of bacteria in both the tonsillar tissue and the crypts.

The first point to be settled in examining this hypothesis is as to whether the tonsils are capable of taking into their substance foreign bodies which come into contact with the mucous membrane. Although an absorptive capacity is commonly ascribed to the tonsils, this has never been experimentally proved.

The great difference between the mucous membrane on the surface of the tonsil and that lining the crypts led the author to assume that any absorption that might go on in these glands would take place more readily through the latter. He therefore carried out the following experiments :—

Foreign bodies were placed in the crypts of tonsils which were more or less hypertrophied, and which therefore had to be removed. After these bodies had remained a certain time in the crypts the tonsils were excised, and a series of sections cut out of the tissues surrounding the affected crypts. A watery mixture of carmine was found best suited for the purpose ; this was cautiously injected into the crypts by means of a blunt flexible canula connected with a hypodermic syringe.

Altogether twelve cases were examined. In two tonsillotomy was performed immediately after the injection, and in both the result was negative as regards the presence of carmine particles in the mucous membrane surrounding the lacunæ.

In one case an interval of twenty minutes was allowed to elapse between the injection and excision. Sections showed collections of carmine in the lacunæ, from which lines of the finer particles extended into the mucous membrane between the tissue cells. In places where the mucous membrane of the lacunæ was of a specially loose texture single particles penetrated some cell layers deeper. The carmine lay immediately adjoining the leucocytes that were present in the mucous membrane, and some particles were in the interior of the multinucleated neutrophile cells.

In five cases an interval of from forty-five minutes to two hours was allowed. The results were very much the same as those just recorded. The depth of penetration was proportionate to the duration of the interval and the looseness of the tissue. After passing through the mucous membrane the carmine was dispersed between the follicles. No traces were found in the interior of the follicles.

In one case there was an interval of two days ; carmine was still found in the lacunæ. In two, however, after an interval of five days, little or no carmine was present in the lacunæ.

In one case, after ten days, a few carmine particles were found in the lacunæ. In the tissues the particles were arranged in more or less parallel lines ; they lay in the intercellular spaces in company with the leucocytes. The latter in the carmine infiltrated region were in no way different from those found elsewhere ; excepting in the neighbourhood of the mucous membrane they mostly contained a single nucleus. In their interior there was no carmine.

In all of the cases the sections were stained for bacteria. These were always abundantly present in the lacunæ, but a careful search failed to reveal them in the tonsillar tissue, excepting in the most superficial layers of the lacunar epithelium.

From these investigations the author draws the following conclusions : (1) under normal conditions, absorption goes on in the tonsils, taking place through the mucous membrane of the lacunæ ; (2) the path taken by absorbed materials

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is through the follicular lymph spaces, in the direction of the larger connective tissue bundles; (3) during the process of absorption the foreign bodies undergo the phagocytic action of the multinucleated neutrophile cells, which lie in and close to the mucous membrane; (4) bacteria are normally present in the lacunæ, but are not usually demonstrable in the tonsillar tissue.

From the preceding cases it seems probable that the bacteria are constantly finding their way into the tonsillar tissue, but at the moment of their entrance they encounter conditions which terminate their existence.

While in some cases acute lacunar tonsillitis may originate from a primary infection of the nasal mucous membrane, the above experiments prove the possibility of direct infection from the buccal secretions.

The finding of bacteria by Fränkel in the tonsillar tissue, and even in the follicles, lends support to the former mode of origin. *A. B. Kelly.*

NOSE, &c.

Frohmann, Dittmar (Berlin).—*Symptomatology and Diagnosis of Acute Non-Purulent Catarrh of the Antrum of Highmore.* "Therapeut. Monats," May, 1898.

ACUTE non-purulent catarrh of the antrum of Highmore does not come often under observation. The condition, as a rule, lasts a few days. The symptoms are usually slight; when the pain is severe dental rather than medical advice is sought. This affection is scarcely mentioned in the older rhinological or dental literature. Later rhinological writers describe it as the precursor of chronic or purulent catarrh of the antrum, and consider that in every acute coryza the accessory sinuses are affected. Larniko gives a detailed description of it, and states that it frequently occurs in the different forms of acute catarrhal rhinitis. "The mucous membrane is hyperæmic and considerably swollen, sometimes narrowing the lumen to a mere fissure; oftener it has a gelatinous appearance from œdematous infiltration. The surface is unevenly swollen from cysts with serous or turbid contents. Microscopically the swelling consists of round cells and serous infiltration with ecchymosis. The secretion is greatly increased—at first serous, then mucous, finally muco-purulent. It drains into the nose; if there is obstruction it accumulates and causes irritation, headache, dull pressure in the head, which may be diffuse or limited to certain parts; pains in the bone or in the region of single branches of the trigeminus." Frohmann lays stress on the presence of toothache due to affection of the nerves which run through the inflamed mucous membrane; sometimes this is absent. He describes seven cases with the above symptoms who had come for dental advice; in these the teeth were found to be healthy. The important symptoms for diagnosis are coryza, pain on pressure over the antrum (best obtained above the roots of the back teeth), toothache in sound teeth (which usually occurs early in the morning), no constitutional disturbance.

Acute pulpitis, dentine formation in the pulp cavity, alveolar abscess, and acute suppurative inflammation of the antrum must be excluded.

His cases all ran a favourable course, and were convalescent after a few days. He considers that more frequent diagnosis of this affection and observation of its progress would throw light on the etiology of empyema of the antrum in relation to nasal or dental disease. *Guild.*

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