

## MOUTH, &amp;c.

**Bussenius and Siegel.**—*On the Identity of the Bacterium of Foot-and-Mouth Disease in Animals and in Man.* (“Maul-und-Klauenseuche und Mundseuche.”) “Deutsche Med. Woch.,” Jan. 28 and Feb. 4, 1897.

THIS article commences with a short notice of the investigations into the causation of foot-and-mouth disease in both pre-bacteriological and bacteriological times. It was long well known that the disease was transferable from beasts to men. This was experimentally demonstrated by Hertwig and his two assistants in 1834. They drank large quantities of milk from a diseased cow, and all three took the disease. Inoculation experiments had proved much less successful. Feeding a sound animal with saliva from a diseased animal had long been in use as a means of spreading the disease. Bollinger was the first to prove that the materies morbi was to be found in the blood. Klein, in 1885, made cultures of streptococci from the contents of vesicles and pustules; injected these subcutaneously into sheep and obtained negative results, but obtained positive results when he fed sheep on them. Siegel, starting on quite different lines, viz., making cultures from the blood and internal organs not of beasts but of men, obtained a bacterium of the bacterium coli group; then, later, found the same bacterium in the organs and blood of beasts, and also in the secretion from ulcers, pustules, vesicles, etc. In 1896 Bussenius cultivated from vesicles, ulcers, saliva, and, after death, from the blood and organs of a patient, W., in B. Fränkel’s ward, a bacterium evidently identical with that of Siegel—a small, ovoid, slightly blue bacillus. A calf fed on this died of foot-and-mouth disease, and a pure culture of the bacillus was obtained from the blood in the heart.

Bussenius and Siegel then started their conjoint research. Their first set of experiments were conducted with the cultures obtained from the patient, W. Pure cultures of several kinds of cocci and two kinds of bacilli had to be investigated, but of them all only the above-mentioned blue ovoid bacillus produced the disease. During the course of later experiments it was found that pure cultures of this bacillus in a virulent condition were most easily got from the heart-blood and organs removed (under narcosis) before killing the animal: further, that the animals should not be more than a few days ill. (After about the eighth day experiments were frequently negative.)

Some children with the disease came under observation. Pure cultures were made from the saliva, but they lost their virulence during the long process required to get rid of other organisms. Some animals were therefore fed with saliva; two hens and a calf reacted, and pure cultures were obtained from their blood and organs. A series of outbreaks of foot-and-mouth disease occurring among cattle in the neighbourhood, permission to experiment was obtained. In all cases in which the beasts were only a few days ill the ovoid blue bacillus was obtained, and when pure cultures thereof were given to other healthy beasts (chiefly calves) the disease was produced.

For particulars as to morphological and biological characters, etc., the reader is referred to “Archiv für Laryngologie,” Band VI., Heft I.

*Arthur J. Hutchison.*

**Dixon, A. F.**—*On the Course of the Taste Fibres.* “Edin. Med. Journ.,” April, 1897.

THE view is held by Gowers and many others that the taste fibres, passing from the anterior two-thirds of the tongue by the chorda tympani to the facial, leave the

facial at the geniculate ganglion to pass via the great superficial petrosal to Meckel's ganglion, and thence to the second division of the fifth; and that the taste fibres from the posterior third of the tongue, passing via the glosso-pharyngeal, leave it to pass along the nerve of Jacobson, through the tympanic plexus to the otic ganglion, and thence to either the second or third division of the fifth nerve. This view is objected to by the writer for various reasons. It has never been certainly established. The course is extremely complicated, involving the passage of the taste impulses through ganglia of the spinal ganglion type twice in each case (viz., of seventh and fifth, and of ninth and fifth nerves), and also through Meckel's and the otic ganglion respectively. Again, if the small nerve of Jacobson is capable of carrying all the taste fibres of the glosso-pharyngeal nerve, it is difficult to understand the sensitiveness of the posterior part of the tongue to taste impressions. These are some of the objections to the fifth-nerve theory.

Turning next to the development of these nerves, which he had carefully studied a few years ago, the writer points out that the chorda tympani is a true branch of the facial, being at first quite unconnected with the lingual. "Similarly, " the great superficial petrosal is formed very early and is developed as an outgrowth " of the cells of the geniculate ganglion. It is connected at first with the seventh " nerve, and only later acquires connection with the fifth." Whatever impulses then pass through the chorda and the great superficial petrosal nerve respectively must reach the brain through the roots of the seventh nerve. In the same way the nerve of Jacobson is an outgrowth of the glosso-pharyngeal, and hence almost certainly carries impulses into the course of that nerve. The conclusion is, therefore, that taste impulses reach the brain by the seventh and ninth nerves.

*Arthur J. Hutchison.*

**Ombriandane and Klein.**—*Ludwig's Angina.* Soc. Anat. Paris, Jan. 15, 1897.

A MAN, twenty-six years old, was admitted into hospital for serious asphyxia, caused by phlegmonous tumefaction of the neck. Opening the tumour caused a slight discharge of pus, without modification of respiratory troubles. Tracheotomy, followed by injection of saline serum was performed. The infiltration of tissues invaded the face; the appearance of abscess was gangrenous. Death on the sixth day. By the bacteriological examination of pus, streptococci and staphylococci.

*A. Cartaz.*

**Pluder, F.** (Hamburg), and **W. Fischer** (Altona).—*Primary Latent Tuberculosis of the Hypertrophied Pharyngeal Tonsil.* "Archiv für Laryng- und Rhin.," Bd. IV., Heft 3.

THE authors first discuss the relations of scrofula to adenoid vegetations, and the implication of the lymphatics of the throat in pulmonary and laryngeal phthisis.

The work done by Lermoyez, Dieulafoy, Broca, Brieger, G. Gottstein, and Brindel in investigating latent tuberculosis of the tonsils having been reviewed, the authors pass to the consideration of a series of thirty-two consecutive cases in which they removed the hypertrophied pharyngeal tonsil.

Of these cases twenty-eight were children and four were adolescents or adults. The majority were in good condition; only two children were scrofulous. There was a history of tuberculosis in the families of half the cases, but only in three instances were the parents affected.

In five of the thirty-two cases (about sixteen per cent.) there proved to be marked tuberculosis of the hypertrophied pharyngeal tonsil, although there was nothing to lead one to suspect its presence. Not one of the patients was affected with tuberculosis, or appeared strumous; and all of them derived the benefits which usually follow the removal of adenoid vegetations. The tuberculosis was diagnosed

histologically. The microscopic examination of the tonsil after removal revealed nothing unusual. In all the cases the tubercles were found only in the mucosa, never in the submucosa; bacilli were only scantily present, and solely in the diseased parts—never in the epithelium or healthy lymph follicles. The nasal and pharyngeal mucus was always free of bacilli. The tubercles were irregularly scattered, and sometimes an entire fold of the tonsil was free, while marked and extensive tuberculosis was found in the neighbouring parts. This is an important point, for it shows that it is not easy to deny the presence of tuberculosis even after such a histological examination, and that the negative results obtained by some investigators may be thus partly explained. Distinct caseation was found in half of the cases. Sections were stained for bacilli only when tubercles had been recognized. It is possible, therefore, that L'mochowski's so-called "diffuse tuberculosis"—which he assumes does not appear alone, but associated with neighbouring tubercles—may have escaped observation.

Tuberculosis of the hypertrophied pharyngeal tonsil can no longer be regarded as very rare. The following are the results of the microscopic investigations made so far:—

Lermoyez	...	...	in 32 cases found tuberculosis twice.
Gottstein	...	...	" 33 " " " 4 times.
Brindel	...	...	" 64 " " " 8 "
Pluder and Fischer	...	...	" 32 " " " 5 "

There are thus seventeen cases of undoubted primary latent tuberculosis of the pharyngeal tonsil on record. Of these, six were children, seven about the time of puberty, and four were from eighteen to twenty-six years. Ten were males, seven females. Only one child was distinctly strumous. Nine were affected with tuberculosis. There were variations as to the size of the hypertrophy, the condition of the faucial tonsils and cervical glands, and of the nasal mucous membrane, so that there was no clinical sign by which the tubercular infection could be suspected.

The authors consider that Dieulafoy was correct in stating that primary tuberculosis of the pharyngeal tonsil occurs with about double the frequency of that of the faucial tonsils.

The mode of infection, the relation of the infection to the hyperplasia, the influence of the infection on the physiological involution, and the result of the local tuberculosis when left to itself, are discussed at length.

The authors strongly recommend further histological research, both on the patient's account and to determine whether locality influences the frequency of local tuberculosis. From the therapeutic point of view, the main thing is the thorough removal of the adenoid tissue.

A. B. Kelly.

**Sticker, G.** — *A Simple Method of Obtaining Large Quantities of Saliva.*  
 "Münchener Med. Woch.," March 2, 1897.

It is often desirable to obtain saliva in quantities large enough for chemical analysis. All methods hitherto in use are either difficult to carry out or for various reasons unsatisfactory. Sticker now uses a small, fine, and carefully cleaned sponge. This is taken into the mouth dry, and is chewed, and at intervals, whenever saturated with saliva, is taken out and wrung into a receiver. In this way plenty of saliva is easily and quickly obtained.

Arthur J. Hutchison.