

**Studies of the Nasopharyngeal Secretions from Influenza Patients.**—OLITSKY and GATES in recent studies (*Jour. Am. Med. Assn.*, 1921, lxxvi, 640; *Jour. Exp. Med.*, 1921, xxxiii, 373) report the cultivation, from the filtered nasopharyngeal washings from early cases of uncomplicated epidemic influenza and from the lung tissues of experimental animals, minute bodies of characteristic morphology which are strictly anaërobic, are filtrable and withstand glycerolation for a period of months. The effects on the blood and in the lungs of rabbits and guinea-pigs injected with these bodies are similar to those produced by the filtered and unfiltered nasopharyngeal secretions from early cases of epidemic influenza. The authors found that the intratracheal injection of the influenzal agent in rabbits exerts an influence on the pulmonary structures of these animals of a nature to encourage the invasion of the lung and the subsequent multiplication there, with lethal outcome, of such bacteria as the pneumococcus, streptococcus and *Bacillus Pfeifferi*, which otherwise in the doses employed are without marked effect. The control experiments show that the injection of normal rabbit lung exerts no such predisposing influence. While the experiments are perhaps not an exact reproduction of the conditions occurring in man in secondary pneumonia following influenza they bear directly on these conditions. Concurrent infections may be regarded as of accidental nature and are not casually related to the typical effects induced in rabbits by a material wholly free from ordinary bacteria. The influenzal agent exerts an effect on the pulmonary tissue which encourages the invasion of the lung and subsequent multiplication there of ordinary bacteria, such as the pneumococcus, streptococcus and *Bacillus Pfeifferi*. A similarity is believed to exist between the conditions under which concurrent infections arose in the inoculated rabbits and those which seem to favor the occurrence of concurrent infections during epidemic influenza in man. In no instance did death occur in the rabbits as a result of the uncomplicated effects of the influenzal agent alone. When death occurred in any of the inoculated animals concurrent infection of the lungs by ordinary bacteria was present. The microorganisms most commonly met with under these conditions were *Pneumococcus* Type IV and atypical Type II streptococci and hemoglobinophilic bacilli. Other kinds were encountered less often.

**An Outbreak of Botulism at St. Anthony's Hospital, Oakland, Calif., in October, 1920.**—GEIGER (*Public Health Reports*, 1920, xxxv, 2858) reports a series of six cases of botulism due to spoiled commercial canned spinach. There were three deaths among the four severe cases. One of the cases appears to have been saved by the botulinus antitoxin. The epidemiological evidence was complete in incriminating the spinach.

**Concerning Anaphylaxis Following the Administration of Diphtheria Antitoxin.**—BRONFENBRENNER and SCHLESINGER (*Proc. Soc. for Exp. Biol. and Med.*, 1921, xviii, 147) studied experimentally the question of the apparent tolerance of human beings to anaphylaxis during diphtheria intoxication. They state that sensitized guinea-pigs receiving subcutaneously large excess of diphtheria toxin withstand the intravenous injection of at least five lethal doses of the antigen to which

they were previously sensitized. This apparent resistance appears about twelve to fourteen hours after the administration of toxin and just about the time when the outward symptoms of intoxication begin to manifest themselves. With a view to eliciting the mechanism of this phenomenon they have made the following observations: The antitryptic titer of the blood of guinea-pigs injected with the toxin does not appreciably deviate from normal up to the time of death. The mechanism regulating the antitryptic titer of the blood remains unimpaired in these animals, however, since an injection of antigen to which they are sensitized is followed by a typical rise of antitrypsin. This rise of antitrypsin incidentally can be interpreted as an indication that the humoral phase of the anaphylactic response of the animals is not abolished by the previous injection of toxin. If the same dose of toxin is overneutralized with antitoxin *in vitro* before injection it does not protect the sensitized guinea-pigs from immediate death when even a single minimal lethal dose of antigen is introduced intravenously. On the contrary the same dose of toxin heated for thirty minutes at 80° C. protected guinea-pigs from anaphylactic shock just as unheated toxin did. Heating of the toxin for thirty minutes at 100° C., however, destroys this property of toxin even if a much larger amount of such toxin is injected. Since the culture medium containing toxin contains also 1 per cent. peptone, a control sensitized guinea-pig, instead of toxin, received peptone in the amount ten times that present in culture medium carrying the toxin. This guinea-pig died immediately after the intravenous injection of antigen, thus showing no protection. It seems thus that the clinical observation concerning apparent diminution of anaphylactic reactivity during diphtheria intoxication is borne out by this preliminary experiment.

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**Studies in the Physiology of Vitamines: Is Water-Soluble Vitamine Identical with Secretin?**—COWGILL (*Proc. Soc. Exp. for Biol. and Med.*, 1921, xviii, 148) states that a similarity in the physiological effects of vitamine B and substances which promote secretion has been alleged by VOEGTLIN and MYERS (*Jour. Pharm. Exper. Therap.*, 1919, xiii, 301). The author has examined a number of solutions such as extracts of rice polish, wheat embryo, navy bean and yeast and neutralized tomato-juice, demonstrated to contain vitamine B, for their possible action on the secretory function of the pancreas and liver. The products used were tested for vitamine B content on polyneuritic pigeons and on dogs which had lost their appetite for several days after having been fed on a diet lacking this dietary essential. Vitamine B has been shown to restore appetite in such animals. The effect of the products on the flow of pancreatic juice and bile was noted in anesthetized dogs in which the pylorus was ligated to prevent secretion due to discharge of acid chyme from the stomach, and the gall-bladder bile was prevented from discharging by ligation of the cystic duct. Normal dogs and dogs fed a diet lacking vitamine B were used. It is planned to experiment upon polyneuritic dogs as well. Fresh secretin solutions prepared by the usual method were injected as a control. Except in the case of tomato-juice all of these products gave negative results. The secretin solutions, however, in comparatively small amounts always produced a characteristic and vigorous flow.