In short, 45 carefully controlled young rabbits were inoculated intranasally with two strains of *Bact. lepisepticum.* Nineteen in all died, 16 developed typical chronic snuffles, and 10 resisted infection. The 12 controls, kept under identical conditions with the experimental animals but not inoculated, remained well.

It may be concluded, therefore, that it is possible to produce typical snuffles in rabbits merely by dropping fluid cultures of *Bact. lepisepticum* of sufficient virulence into the nasal passages.

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II. Experimental rabbit pneumonia.

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It was stated in the previous communication that following intranasal inoculation of *Bact. lepisepticum* into rabbits, a certain number of fatalities ensued. These animals died of pneumonia.

The time of onset of symptoms varied from 24 hours to three days following the inoculation. The rabbits developed signs of respiratory distress, appeared very ill, and showed serous or purulent discharges from the nares. Death ensued in from two to seven days as a rule.

Gross autopsy inspection showed fluid in the pleural cavity varying from a few drops to several cubic centimeters. In the acute cases the fluid was slightly cloudy; in the more prolonged cases it tended to be purulent. The appearance of the pleuræ varied in a corresponding manner from mere dullness to surfaces covered with fibrinous exudate. The lungs usually showed massive areas of consolidation; in early cases, on section, moist and hemorrhagic; in later cases, granular and dry. In some of the older cases the small bronchi exuded pus.

Histologically, the acute cases showed a pleural exudate consisting of fibrin, coagulated serum, and necrotic leucocytes. The pneumonic process seemed to start around the blood vessels where the adjacent alveoli were filled with fibrin, serum, and many red

blood corpuscles. Elsewhere little change in the alveoli was seen. The blood vessels were surrounded by sheaths of fibrin containing many polymorphonuclear, mononuclear, and eosinophilic cells. The bronchi were normal. In more advanced cases the alveoli were filled with leucocytes in which the mononuclear type predominated. Finally, the involvement became general; usually an entire lobe was affected. The bronchi contained leucocytes and abscess-like formations occurred.

Bact. lepisepticum was demonstrable in the circulating blood, in the pleural fluid, and lungs.

It has, therefore, been possible to induce experimentally in rabbits the several manifestations of the native respiratory disease called snuffles, pleuropneumonia, and septicemia. Moreover, the experiments show that properly selected rabbits differ in their susceptibility to infection with *Bact. lepisepticum:* a certain number prove refractory, others develop chronic snuffles, but otherwise remain healthy, while still others succumb to an acute fulminating pneumonia or a pneumonia of a slower kind.

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Effect of polar ligations upon the remaining lobe of thyroid gland after the removal of one lobe.

By W. H. BARBER.

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A review of the laboratory records of the Class in Surgery, S. 101-102 (1921-1924) shows 63 operations upon the thyroid with data incomplete in 30 and complete in 32. Of the latter, 16 were superior thyroid ligations following hemithyroidectomies, 3 inferior thyroid ligations following hemithyroidectomies, 11 bipolar ligations combined with the removal of one lobe, one bipolar ligation without thyroidectomy and one excision of adventitia from a portion of the carotid artery. It is believed that a superior polar ligation in a hemithyroidectomized dog, in a measure, corresponds with the ligation of the two superior poles in a human hyperplastic goitre. The experimental bipolar liga-