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.

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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-

tion may be analogous to the ligation of all four poles in the human gland. The changes in the thyroid remnants under these conditions are thought to be suggestive of the findings in selected human ligations and thyroidectomies.

Of the unipolar ligations less than 20 per cent remained normal while more than 80 per cent revealed hyperplasia of the interstitial epithelial cells or adenomatosis. Of the latter, approximately one-third showed hemorrhage into the thyroid capsule or into the gland or congestion or replacement fibrosis to some degree. After bipolar ligations, the residual thyroid tissue appeared hyperplastic or atrophic in about equal numbers of instances. A few of the latter animals died suddenly within two days after operation.

Parathyroids appeared on section in 21 of the above 32 cases. Of these, approximately one-third remained normal while two-thirds showed congestion or replacement fibrosis. Halsted's observation of degenerative changes in the parathyroids following inferior polar ligations appeared in part borne out in the few instances at hand. In one instance colloid was noted with epithelial cells and acini closely resembling thyroid tissue. In other portions of this same parathyroid gland, the cells occurred in columns and appeared more darkly stained as in normal parathyroids. In most cases, the parathyroids were found either partially or wholly enclosed by the capsule of the thyroid; in exceptional cases a parathyroid or nests of parathyroid cells occurred within the substance of the thyroid gland.

In pregnant or recently pregnant female dogs, the capsular arterial supply was found to be markedly increased and to present a diffuse network of vessels about the whole gland.

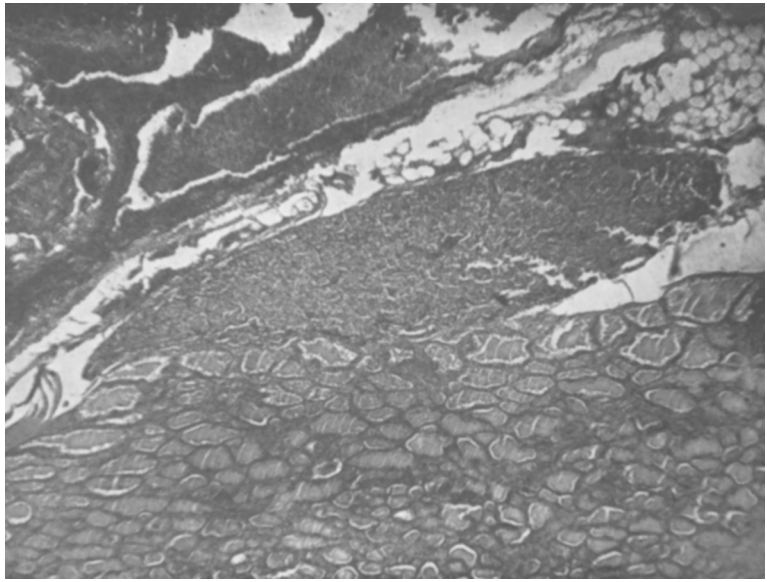

FIGURE 2.

Showing a hyperplastic thyroid and normal parathyroid following ligation of the superior pole of one lobe after removal of the other lobe.

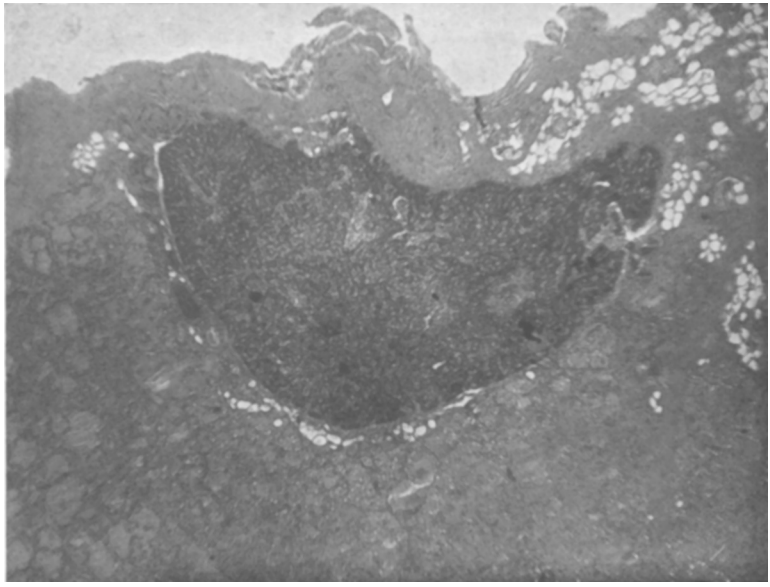

FIGURE 3.

Showing fibrosis about the vessels in the parathyroid and haemorrhage into capsule and thyroid gland after hemithyroidectomy and unipolar ligation.