

(3) Tension pneumothorax and transudate following the use of positive pressure.

As exemplifying these conditions the results of Sauerbruch and Robinson, and Haecker, in 38 experiments with positive pressure, in which extirpation of the left lung was carried out after simple ligation of the bronchi and vessels en masse, are most striking. Seven deaths were the result of primary infection; nine died from failure of the bronchial closure; and eighteen from tension pneumothorax leading to the formation of transudate. Thus, only four animals recovered. Out of a total of 92 pneumonectomies in dogs under positive pressure, 79 have proved fatal, or 86 per cent.

Opposed to these results are those recounted by Friedrich, Sauerbruch, Meyer and others, who successfully performed numerous complete pneumonectomies with the aid of negative pressure.

Various methods were developed in the attempt to close permanently the divided bronchi, including simple ligation and cauterization of the stump, curetting of the bronchial mucous membrane before ligation, re-inforcement of the stump with lung tissue, etc. To Meyer, however, is due the credit of having devised the method illustrated in the following sketch. In Meyer's hands this method of bronchial closure, combined with the use of negative pressure, has yielded the most successful experimental series,—16 out of 17 dogs having recovered. (Fig. 1).

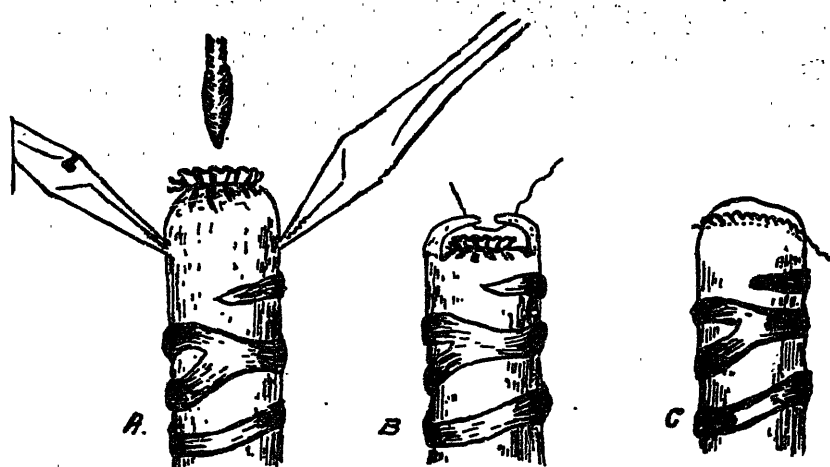


Fig. 1.

FIG. 1.—Diagrammatic representation of method of bronchial closure. (a) Ligation of bronchus after crushing. (b) Depression of stump within lumen of bronchus, with continuous suture of edges of crater. (c) External aspect of bronchial stump.