

cluded in these figures, which, it may be repeated, are averages and apply merely to the figures of a number of large German pathological laboratories. In the last 15 years since my attention was first called to this form of disease, I have seen about 18 cases, all except one diagnosed during life, and with a few exceptions, corroborated by autopsy after death. It may be inferred from this that primary malignant disease of the lung, while it must undoubtedly be classed among the rarer diseases, is not so very rare but that every physician in a fairly large practice may, and probably does, meet with it from time to time. Carcinoma is by far the most frequent, and all the various forms, including under this heading also the so-called endothelioma, are represented. Sarcoma is very much rarer, as compared with carcinoma. I have not seen an undoubted and genuine case.

The great majority of all pulmonary cancers are bronchial, beginning either in the main bronchus, perhaps a little more frequently in the right one, or in one or the other of the secondary bronchi, sometimes in those of the lower order. The growth starts at some point of the mucous membrane or the submucosa, proliferates into the lumen, which is gradually filled up, the bronchus becoming more or less completely obstructed. Coincident with this is growth in the other direction, the bronchial wall is destroyed, the neoplasm penetrates into the peribronchial tissue, and, proliferating along the bronchial ramifications, produces more or less extensive infiltration in the lung, so that not infrequently the greater portion of an entire lobe is occupied by tumor. In the neighborhood of this primary tumor, secondary nodules may appear, which again may merge into larger masses; at the same time the lymph nodes at the hilus become involved, the mediastinum is filled with neoplasm, the large vessels, the nerves, especially the pneumogastric, the trachea and esophagus are surrounded, compressed and involved in the tumor formation. The growth may extend directly to the pericardium, and through this or through the large vessels to the heart. The obstruction of one or more of the larger bronchi leads to bronchiectatic dilatations; these become filled with abundant bronchial secretion, and very frequently infection and the formation of bronchiectatic abscesses follow. The tumor itself is apt to degenerate and break down, ragged cavities being formed in it, filled with detritus or sanious puriform material. Compression or thrombosis of larger branches of the pulmonary vessels may lead to more or less extensive gangrene. Secondary infection in the engorged and more or less morbid lung tissue not directly involved in the new growth, often causes areas of pneumonic consolidation.