

a sudden profuse hemorrhage is the very first indication of some lesion in the lungs. These hemorrhages may occur at any stage of the disease, and are not infrequently the cause of its sudden and abrupt termination. One of my cases, a man apparently still far from the fatal ending, died of profuse hemoptoe in a hansom cab on his way to a medical meeting at which I wished to demonstrate him. In some cases of sarcoma of the lung, a peculiar grassy green sputum, without, however, any characteristic microscopic elements, has been observed. It can by no means be considered as pathognomonic, but tends, in conjunction with other symptoms, to strengthen the diagnosis, and may help occasionally to differentiate as between sarcoma and carcinoma. The systematic and thorough bacteriological and histological examination of the sputum is obviously of the greatest importance. The continuous absence of tubercle bacilli in cases where there are signs of consolidation or ulceration in the lung, and where there is a history of hemorrhage or bloody expectoration, should always suggest the probability of malignant disease. But even when tubercle bacilli are found and the association of tubercular disease and primary malignant neoplasm of the lungs is by no means so very rare—it may, under particularly favorable conditions, be possible to recognize the tumor by the aid of a careful study of the sputum. In some very few isolated instances, probably all of them sarcoma, massive pieces of the tumor have been ejected with cough; smaller particles of cancerous tissue, recognizable by the microscope, have also here and there been detected in the expectoration, but these are rather exceptional occurrences. In the overwhelming majority of cases, constant, even daily examinations of the sputa for many months, has failed to detect genuine particles of carcinoma. There remains, therefore, the search for characteristic cells. Among the multitude of epithelial cells that are found in the expectoration—squamous, large and small round or polygonal, cuboid, cylindrical, ciliated, etc., it would seem, *a priori*, quite hopeless to attempt to pick out cancer cells. Attention, however, has been called to certain forms of cells, which, if present, are claimed to be absolutely pathognomonic, so that on the evidence of these cells alone the diagnosis of cancer may be made. Hampeln⁶ considers the appearance of certain large polygonal, polymorphous cells in the sputa, characteristic of carcinoma. They are often met with in great abundance; they may assume all sorts of distorted shapes, but never entirely lose their epitheloid character, and—this is the most important point—they are always entirely free from pigmentation, while all other forms of epi-