

Embolic abscesses are common and are often wedge-shaped. Delafield and Prudden described this form of abscess as involving the walls of the air spaces, originally through the transposition by the blood vessels of various forms of bacteria, especially the streptococcus and staphylococcus pyogenes. They call it pneumonia of hematogenous origin, or pyæmic pneumonia resulting in abscess of the lung. Abscess may be due to perforation of the lung from without. Pulmonary tuberculosis, at some time in its course, usually becomes a mixed infection with the development of abscess cavities and symptoms of a septic process. Abscess of the lung may be single or double, the latter being invariably pyæmic in origin.

Gangrene of the lung presents great varieties in its onset, acute or very gradual, associated with fever and local thoracic symptoms and often not pronounced, and only found at autopsy. (Strümpell).

Definite symptoms of local pulmonary disease precede the characteristic features of both gangrene and abscess followed by aggravation of the symptoms and the characteristic sputum. Strümpell gives a good description of the sputum. He says: "The penetrating stench of the sputum is most striking, a most repulsive, putrid odour infecting the whole vicinity." It separates if placed in a conical glass, into three layers, a greenish-brown, heavy sediment with plugs of tissue, an intervening thin liquid, and a frothy, thick layer on top. Microscopically, bits of destroyed lung tissue are found, also elastic tissue fibres, with granular matter, pigment grains, fatty crystals, leucin and tyrosin, cholesterin and the various pyogenic and saphrophytic bacteria. The odour is communicated to the breath. There are differences of opinion as to the presence of elastic tissue fibres as a guide to diagnosis. Strümpell and Osler hold that it is always present. Traube thought the gangrenous process destroyed the elastic tissue, and Eigkman has shewn that certain bacteria evolve an elastic tissue dissolving enzyme, and it is possible that the disappearance of elastic tissue in pulmonary gangrene may be attributable to the action of some such substance. The typical sputum of abscess of the lung is pure creamy pus, without marked odour, but this varies, depending upon the emptying and refilling of the cavity and the development of an odour. It contains elastic tissue fibres and hæmatodin crystals.

*Physical Signs*.—Examination, as a rule, permits one to make out the site of the nodule, much depending upon the situation and extent of the gangrene. An infiltration of any size will cause dulness on percussion with bronchial breathing and mucous rales. If a gangrenous cavity has formed, signs of cavitation will be present, sometimes the