

as blue-black polygonal areas $\frac{1}{4}$ - $\frac{1}{2}$ inch in diameter. These are distributed over the whole of the cut surface, but are most evident in the lower lobes. This may be due to confluence or simply to the greater bulk of the base of the lung. Anatomically it will be observed that these polygonal fibrosed areas conform to the size and shape of the pulmonary lobules, which they have, in fact, replaced.

All these changes may be considerably modified according to the terminal illness: broncho-pneumonia, tuberculosis, bronchial carcinoma or congestive heart failure.

Other organs do not show any characteristic changes, they are not involved in the disease save indirectly and in relation to complications and sequelae.

Microscopical appearances

Asbestos fibres (natural and altered), plugs of mucus and desquamated epithelium may be observed in the main air-passages. In the terminal bronchioles and alveolar ducts, these changes are more advanced and associated with the presence of large mononuclear phagocytes. The alveoli and lymphatic vessels are blocked with dust and phagocytes. Connective tissue surrounds the bronchioles, alveolar ducts, air-sacs and blood vessels, and penetrates into the interlobular septa and beneath the pleura. In the most advanced stage, all appearances of lung structure are obliterated by fibrous tissue.

The asbestosis body

Curious bodies in the lungs were first described by Stuart McDonald in 1927. They are now recognized as a feature of exposure to the inhalation of asbestos fibres, and they have been identified in the lungs, pleura, sputum and faeces. It is now accepted that they are formed from the original fibre by the following process:

(1) deposition of some material around the fibre so as to thicken it; (2) fissure or cracking of this material giving rise to the appearance of segments; (3) fragmentation, or the separating off from the asbestosis body of fractured portions of the deposited material. Gloyne (1932) summarizes the variety of appearances as follows.

(1) Marked variation in length (24-60 microns) and breadth (12-24 μ). Gardner and Cummings (1931) record their being as long as 250 μ in experimental animals. The short forms are sometimes seen within phagocytes.

(2) Golden yellow colour: Gardner and Cummings have pointed out the resemblance of this colour to the haemosiderin deposits found in areas of tissue in which haemorrhage has occurred.

(3) Homogeneous structure when viewed by ordinary transmitted light.

(4) By cutting down the light, a suggestion of a central fibre can often be seen. This fibre may also sometimes be seen projecting beyond the body.

(5) No differentiation with polarized light.

(6) Tendency to be arranged in irregular clumps and clusters

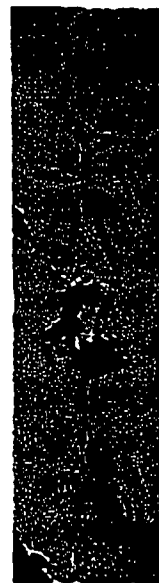


FIG. 20.—As



FIG. 21.—As