

(7) Very early forms unsegmented ("sausage-shaped").

(8) Later forms crenated, segmented, or resembling a series of oval discs, or beads strung together in a necklace form. Sometimes, later, a short length of fibre is seen between the segments.

(9) Bulbous or pointed extremities (or one bulbous and one pointed suggesting "heads and tails"). Simon and Struchun (1931) have noted sharply angled forms suggesting incipient fracture, and believe that the tapering tail forms may be the broken ends of this fracture.

(10) Generally quite straight, occasionally curved, very rarely S-shaped. During examination in a wet preparation, slight pressure on the cover slip will sometimes cause them to bend owing to the elasticity of the central fibre. This proneness to bend under stress and strain may explain the curved forms often seen in sections of tissue, as suggested by Gardner and Cummings.

(11) Forms seen "end-on" look like knobs or door-handles. Small secondary knobs and bosses sometimes seen thereon.

Histological technique.—Gloyne (1933) describes the following technique for the identification of these bodies:

After digestion of the sputum with equal quantities of concentrated antiformin and centrifugation, the antiformin is pipetted off, and the deposit covered with a small quantity of a 5 per cent solution of ammonium sulphide. The asbestosis bodies are then coloured black. This colour can be removed with hydrochloric acid.

Sections.—In the case of sections the following technique has been found useful:

After removal of the paraffin wax with xylol and alcohol in the usual way, the section is washed with water and then flooded with ammonium sulphide, which is allowed to remain for several minutes. The section is next washed and counter-stained with an aqueous solution of neutral red, dehydrated, and mounted in balsam. This method of staining also shows the presence of a large amount of iron in the sections. Unfortunately the black colour is slowly removed by the mounting fluid, and the sections will only keep for a few weeks.

Staining with haematoxylin.—Haematoxylin, which also has an affinity for iron, can be made to colour asbestosis bodies, but it is rather a deposition of stain than a true staining reaction. The technique is as follows.

After digestion of the sputum with equal quantities of concentrated antiformin and after centrifugation, the antiformin is pipetted off and replaced by a 5 per cent solution of Ehrlich's haematoxylin. Blueing of the haematoxylin immediately takes place owing to the remains of the alkaline antiformin. The mixture is well shaken and allowed to stand for $\frac{1}{2}$ –1 hour, and then centrifuged again and the deposit mounted as a wet preparation. By this means the asbestosis bodies become a dark-brown or black colour, according to the length of time they have been exposed to the haematoxylin.

Although these haematoxylin-coloured bodies give the impression of having the haematoxylin deposited on them rather than having actually taken up the stain, after washing over-night they still retain sufficient stain to give a dark-brown effect under transmitted light.

Diagnosis of asb

While the me general—namely gation—the rela

Occupational his

Reference is n our knowledge that time the in good, and neith and the processe was heavy Th advanced stages graphic changes standards the te result that radic conditions have themselves for d the disease has experience of the in the earliest st

Another matt asbestos-mattres females, but do associate dust d This is further manifest until ti is then designa months—is sorr and leads to in changes in asbe lung fields, and t ally during me simulate them w

However, by i in the main cer diagnosis to the Nevertheless, cv possibility, prov the manner desc

Clinical aspects

Dyspnoea is i spicuous becaus