

been able to examine material from a white South African man aged 44 by the courtesy of Dr. J. C. Wagner. This man (EN705253) lived near asbestos dumps in his youth but was not occupationally exposed. A single section shows a cellular reaction in fibro-fatty tissue of the peritoneum and demonstrates a transitional form between columnar pseudo-epithelium and irregular fibrous tissue. There are no asbestos bodies nor any birefringent material. A hyaluronidase test with toluidine blue was negative on this section but the form of fixation is unknown. Histologically it is similar to and is probably pathogenetically identical with the London cases.

There can be no doubt that the predominant abnormal material in the histological sections is of fibrous tissue origin, and such cells as resemble serosal epithelium appear to be derived from them. In the early stages, seen in peritoneal biopsy, the lesions are more cellular, and later they become more fibrous. Progressive massive fibrosis in the related industrial conditions of silicosis is considered by the authors to be somewhat analogous, and silicotic granuloma due to talc is another comparable condition. Since much inhaled foreign material passes into the gut (Hilding, 1963) it is probable that some at least will enter the abdominal lymphatics. We have suggestive evidence of its presence in these peritoneal tumours, and further searches by electron microscopy and by x-ray diffraction methods at present being carried out may confirm this. However, in these patients with peritoneal tumours the pulmonary changes due to asbestos are below average in severity (disability has been commonly assessed at 10 to 30%). It may well be that the shorter life span of the severely affected worker is the reason why the syndrome is not more common. Another cause of confusion is the frequent diagnosis of some other form of neoplasm of which we have examples in carcinoma of the stomach, ovary, pancreas, and tonsil, as well as the unclassified cases of carcinoma of the peritoneum.

Wagner, in a series of publications (Wagner *et al.*, 1960; Sleggs, Marchand and Wagner, 1961) has claimed that tumours of the mesothelium are peculiarly liable to occur in asbestosis. In one African community he has claimed a very high incidence indeed (personal communication) despite often minor exposure, in some cases confined to childhood. We do not exclude the possibility that the masses which occur in the abdomen in the syndrome we describe are mesotheliomas and therefore true neoplasms, but we do not believe that our evidence, or any other of which we are aware, justifies such a confident assumption.

The earliest reference to similar masses which we have encountered is von Rokitsky's (1854)

description of primary 'colloid cancers' of the peritoneum. Neither he nor any subsequent author offers any convincing proof of their malignant character, and there does not appear to have been any great advance on the opinion of Lubarsch (1895) that 'There is scarcely another variety of tumour which is so ill defined and which admits of so much doubt as to its precise nature'. Histological studies, such as that of Stumpf (1954), merely demonstrate what is clear from this material, that serosal cells may assume many weird shapes as well as several distinct organized patterns under abnormal circumstances. The tissue cultures of Stout and Murray (1942), while clearly demonstrating the ability of mesothelial cells to assume an epithelial appearance, are at least as consistent with the masses being due to reactive processes as to their being neoplastic. To quote further, while Ackerman (1954) states that 'It is the majority opinion that although primary peritoneal tumours are rare they do exist', Willis (1952) considers that 'It will be well to preserve an open mind regarding (their) exact histogenesis', and Brown and Johnson (1951) frankly consider them the 'end result of a low grade inflammatory process with organization of the exudate'.

It is abundantly clear that speculation is more readily available than fact concerning these tumours, and we consider it more helpful to add to the latter than to the former. We are impressed by the lack of occupational data in nearly all of the clinical histories with the exception of the most recent. It is our opinion that these masses do not in fact closely resemble neoplasms, and, apart from these controversial cases, we have not encountered a mesothelioma in several thousand necropsies (see Enticknap, 1952). In the uniform presence of a history of exposure to an industrial irritant that has not yet been shown to be oncogenic, we think it unwise to give the name of a specific neoplasm to this syndrome and prefer, with Miller and Wynn, who recorded the first British case in 1908, to say 'We shall not attempt to give an explanation . . . we merely record the fact(s)'.

The exact nature of the tumours may only be elucidated by their experimental production in animals, and details of Wagner's (1962) experiments are awaited with interest. We have in this series had an opportunity to examine by conventional methods a large amount of human tissue showing these changes and feel it is unlikely that such studies will permit more than an informed opinion. As we have been unable in the course of studying these cases to form a definite opinion as to the nature of the abdominal masses, we prefer to evade the issue by referring to the predominant tissue in them as 'wild fibrous tissue', and we believe it may be a direct