

whatever cause are referred for necropsy. One of us is usually present at the examination or is immediately informed of the circumstances. Ten of the cases described were discovered in this way. The surviving patient is an asbestotic whose complaint of dyspepsia led to investigation in the light of previous experience.

Type of Exposure

There are three commercially important types of asbestos: chrysotile, crocidolite, and amosite. The latter two are grouped as amphibole asbestos. They differ in geological formation, in chemical composition, in crystalline form, in fibre size, and in many other respects. Wagner *et al.* (1960) have reported primary mesothelial tumours associated with exposure to crocidolite. In North America primary peritoneal tumours have been reported by Cartier (personal communication) and by Mancuso (Mancuso and Coulter, 1963 and personal communication) in workers exposed to chrysotile. So far there have been no cases reported where the exposure was only to amosite. Cowing (personal communication), in a report not yet published, has found no cases in his experience of workers exposed for many years solely to amosite in South Africa.

The cases in this series had all been exposed at the same factory to dust from all three types of asbestos.

It has proved impossible to ascertain the degree of exposure to any one type. It cannot be too strongly emphasized that the amount of exposure to asbestos was often small. The exposures and histories are outlined in Table 1. They are presented in order of the length of exposure.

Clinical Features

All the cases presented with abdominal pain, discomfort or ascites (Table 2). The time from the first exposure to the onset of symptoms was always long, from 20 to 46 years. In the majority of cases the illness ran a course of less than six months. In four of the cases pulmonary asbestosis had not been diagnosed or certified previously; in one case the diagnosis of asbestosis was not submitted for certification in deference to the patient's wishes, and in one case the patient died before the diagnosis of pulmonary asbestosis could be confirmed and certified by the Pneumoconiosis Medical Board. None of the cases was severely affected by pulmonary asbestosis. Disability is assessed by the Pneumoconiosis Medical Board according to regulations made under the National Insurance (Industrial Injuries) Act 1946 which came into force in 1948. This is expressed as a percentage except in the cases of two females whose disability was certified as 'total'. Such 'total' disability is the only alternative

TABLE 1

No. and Sex	Hospital Reference	Age at Death	Years of Exposure	Length of Exposure	Diagnosis of Pulmonary Asbestosis	Year of Death	Survival after First Exposure (yr.)	Certified Disability
1F	Queen Mary's 26655	44	1935	10 months	Not diagnosed	1961	25	Not certified
2F	Not admitted to hospital	67	1916-1919	3 years	1946	1962	46	'Total'
3M	London 190984	52	1930-1934	4½ years	1963	1963	33	Not certified
4F	King George's 98753	61	1916-1924	8 years	1956	1962	46	'Total'
5M	London 141164	Alive	1937-1940 1945-1955	13 years	1955	Biopsy 1962	(Alive) 26	30%
6M	London 40336/47	38	1939-1942 1946-1960	16½ years	1954	1961	22	20%
7M	King George's 49534	78	1942-1962	20 years	Not diagnosed	1962	20	Not certified
8M	Harold Wood 55085	47	1929-1954	25 years	Not diagnosed	1959	30	Not certified
9M	London Clinic 2117/61	57	1921-1948	27 years	1948	1961	40	Not certified
10M	London 27245/56 (Keal, 1960)	50	1931-1935 1937-1954	31 years	1954	1958	27	10%
11M	Hammersmith 227252 (Heard and Williams, 1961)	47	1927-1959	32 years	Not diagnosed	1959	32	Not certified