

dolite) was present and in 41 cases chrysotile. It is not known however to what extent this control group might be considered representative for the whole population.

Gross et al (1974a), using lightmicroscopy and electronmicroscopy, found asbestos fibres in lungs of people presumably not occupationally exposed to asbestos. In addition to identifiable chrysotile fibres they found much larger numbers of mineral fibres of unknown composition; fibres from glass or rockwool and ceramic aluminium silicate were identified; in addition fibres from the skeleton of plants and diatom fragments were found. The authors measured the fibre content of non-occupationally asbestos exposed subjects (more females than males) from Pittsburgh (high industrial smoke emission) and Charleston (relatively clean seacoast community). The average concentration in the Pittsburgh group was more than three times that in the Charleston group; the average concentration of mineral fibres was seven times as high. Nevertheless, the range of concentrations as found was of an entirely different magnitude than in asbestotic lungs: the percentage of mineral fibres identified as chrysotile asbestos was 7%; this is estimated to be over 95% in asbestotic lungs.

The discussion as to which size of fibre should be looked for has not been settled. As Lee (1974) mentioned in his commentary on a conference on the Biological Effects of Ingested Asbestos: "Some stand by the doctrine enunciated several years ago that only fibres whose length lies between 5 and 25µm are significant" and "Many however are firmly convinced that it is the submicroscopic particle that can penetrate cells and cause damage although they may be fairly rapidly degraded, and that these are the ones that should be measured. Since one large fibre can break up into a multitude of small fibres, a resolution of this disagreement is urgently necessary" (see chapter VI).

The existence of this disagreement means that the use of both the lightmicroscope and electronmicroscope is necessary; this implies that the investigations can only be done on a small scale making it impossible to screen larger groups from the population at the moment: electronmicroscopic investigations can be done in only a limited number of institutes and cost much time and money. The screening of larger groups of the population

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