

value and importance? Once the questions are identified it may be easier to choose the forum in which to answer them.

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¹ Anonymous. Does Britain need an academy of medicine? *Br Med J* 1979;ii 1611.

² Godber G. An institute of health? *The Times Health Supplement* 1982 Feb 19:4 (col 1-4).

³ British Medical Association. *The medical effects of nuclear war. The report of the British Medical Association's Board of Science and Education*. Chichester: John Wiley and Sons, 1983.

Asbestos related diseases without asbestosis

Asbestosis and mesothelioma are prescribed diseases under the Industrial Injuries Scheme and entitle the patient or his dependants to compensation. The term asbestosis should be used only to denote fibrosis within the lungs. The three other non-malignant conditions associated with exposure to asbestos are pleural plaque, pleural effusion, and diffuse pleural thickening. The Industrial Injuries Council now recommends that, when it reaches a certain extent, the last of these should also be prescribed.¹

Pleural plaques develop in the parietal pleura, seldom cause disability, and are not to be prescribed. Pleural effusions may be transient but some are chronic and may recur.² No prescription is proposed for these, but, under the new proposals, if they cause sufficient bilateral thickening of the pleura an application to a pneumoconiosis medical panel would lead to certification.

Diffuse pleural thickening associated with exposure to asbestos has become increasingly recognised.^{3,4} Both pleural layers are affected and restrict the expansion of the lung. Histological examination shows only non-specific fibrosis, and, as with effusions, the diagnosis depends on excluding other causes such as tuberculosis and other infections, collagen diseases, trauma, chronic uraemia, and drug induced fibrosis.⁵ With such exclusions, the Industrial Injuries Council is satisfied that bilateral diffuse pleural thickening in asbestos workers is likely to be industrial and recommends that disablement benefit should be awarded when the thickening is bilateral, is over 5 mm thick, and extends over more than a quarter of the chest wall.

The prescription of this condition will be welcomed, though some may be dissatisfied that the disease has to be so extensive to allow certification. Nevertheless, the committee suggests that this requirement should be reviewed in the light of experience.

The report also considers cancer of the lung in asbestos workers. At present this condition is not prescribed, but when it occurs in association with asbestosis it is considered to be a sequel and benefit is payable. Claims which have been rejected during life may be successful after death because necropsy may disclose previously undiagnosable mild asbestosis. The council now recommends prescription of lung cancer in patients with asbestosis and in certain other circumstances. In doing so it had to consider how to take account of smoking habits and the amount of exposure which would justify certification. The problem of the contribution of smoking to lung cancer in asbestos workers has been disposed of neatly. Studies in the

United States in insulation workers have shown that the relative risks of developing lung cancer are: non-exposed non-smokers 1; asbestos exposed non-smokers 5; non-exposed smokers 11; asbestos exposed smokers 53.⁶ Because exposure increases the risk by a factor of five in both smokers and non-smokers the council recommends that smoking should be disregarded.

Cancer of the lung in asbestos workers may be divided into two broad types. Firstly, peripheral adenocarcinoma, which is unrelated to smoking and accepted as being due to asbestos exposure. The second is squamous, undifferentiated, and small-cell cancer arising in proximal airways, certainly related to smoking but only doubtfully related to asbestos. Perhaps wisely, the council makes no attempt to distinguish between these and recommends prescription irrespective of type. Most authorities accept that the risk of lung cancer is increased only when there has been heavy exposure to dust. Reasonable estimates of exposure may be made for people working in circumscribed places such as asbestos factories, but this may be impossible for, say, shipyard workers or engineers with intermittent exposure in various jobs, particularly in the distant past.

Faced by this difficulty the council has made an ingenious proposal that the presence of other indicators of asbestos exposure should justify certification. It recommends prescription when primary cancer of the lung is accompanied by one or more of the following features: asbestosis, bilateral diffuse pleural thickening, and bilateral pleural plaques.

Asbestosis provides clear evidence of heavy exposure, but, though bilateral diffuse pleural thickening and bilateral pleural plaques are linked with exposure to asbestos, the relation is less definite and more capricious.⁷ Moreover, pleural disease and asbestosis are also poorly correlated, for the former may appear in lightly exposed people such as the wives of asbestos workers and residents in the vicinity of asbestos mines and factories. Given a minimum exposure to dust, the development of pleural calcification, which facilitates the diagnosis of plaques, is probably mainly determined by age, usually taking over 20 years from the first exposure.^{8,9} Only some 15% of plaques are detectable during life,¹⁰ but this proportion might be higher if oblique x ray views were used in addition to the routine ones.¹¹ Hence probably the people who are certified during life will not be all those who have plaques but only the minority in whom they are demonstrable. The case for necropsies in people who have had industrial exposure to asbestos and die of lung cancer is clear.

The council's aim has been to identify people with sufficient exposure to dust to justify certification if they develop lung cancer. Workable regulations are difficult to devise, but the proposals favour those with pleural x ray shadows which may be the result of light exposure in the distant past and discriminate against those with much heavier exposure who, for unknown reasons, do not develop pleural lesions or have not had time to do so. The council has decided against specifying a duration and degree of exposure as a qualifying condition because it considers this to be arbitrary and lacking in scientific validity. Even so, the criteria of pleural lesions that it proposes are probably a less than satisfactory index and, though the extension of prescription will be welcomed—even if it requires legislation—probably many will find that the details of the proposals which are now before the Secretary of State for Health are unsatisfactory.

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