Royal College of Physicians

Setting higher standards

Karen Jardine
Assistant Assembly Clerk
Committee Clerk, Room 419
Parliament Buildings
Ballymiscaw, Stormont
BELFAST
BT4 3XX
committee.finance&personnel@niassembly.gov.uk

From The Registrar
Patrick Cadigan MD FRCP
patrick.cadigan@rcplondon.ac.uk

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Dear Ms Jardine

Re: Damages (Asbestos-Related Conditions) Bill

The Royal College of Physicians (RCP) plays a leading role in the delivery of high quality patient care by setting standards of medical practice and promoting clinical excellence. We provide physicians in the United Kingdom and overseas with education, training and support throughout their careers. As an independent body representing over 25,000 Fellows and Members worldwide, we advise and work with government, the public, patients and other professions to improve health and healthcare.

The RCP is grateful for the opportunity to respond to the Committee for Finance and Personnel's call for written evidence. In so doing, we have liaised with the British Thoracic Society and would like to raise the following issues.

1. Pleural Plaques

Aetiology and prevalence

The cause of pleural plaques is exposure to asbestos fibres, most commonly in an occupational setting. The prevalence is most strongly related to the length of time since first exposure and when detected there is usually a latent period of 20-40 years. Prevalence is also statistically related to the duration of exposure, the level of exposure and the cumulative exposure[1-3]. Pleural calcification may also be seen in other conditions such as healed pleural tuberculosis and healed thoracic trauma, but these often have characteristics on imaging that distinguish them from asbestos-related pleural plaques.

Pleural plaques are the commonest physical manifestation of asbestos exposure. The detection of pleural plaques varies according to the imaging method used (computed tomography (CT) detects more plaques than chest X-ray); the time since first asbestos exposure (as plaques become calcified over time and are then more readily detectable); and the population studied (those with asbestos exposure have more plaques detected).

In two recent CT screening studies in France the prevalence in 5545 asbestos exposed workers was 15.9% and in a second study, 46.9% of 1011. For both studies the mean latency period was around 40 years[1,2]. Other estimates indicate that between 5 and 15%

of those with occupational exposure will have plaques after a latent period of 20 years, rising as the latent period increases[3-4]. Sophisticated imaging techniques, such as CT, are not indicated to screen for pleural plaques.

Association with other asbestos related conditions
Asbestos exposure is linked to a number of other conditions that may have serious implications on health. It is important not to confuse these conditions with pleural plaques:

- *Asbestosis*, a form of pulmonary fibrosis that is usually progressive. It may result in severe respiratory disability and often premature death. It is linked to the cumulative exposure to asbestos and type of asbestos.
- *Bronchial carcinoma* is also linked with the cumulative exposure to asbestos but it is not clear whether a diagnosis of asbestosis is required before bronchial carcinoma can be attributed to asbestos exposure.[5]
- *Mesothelioma* is a malignancy of the pleura or peritoneum with a poor prognosis and with limited therapeutic possibilities. It is strongly associated with length of latency period but also with cumulative exposure.
- *Diffuse pleural thickening* is a progressive condition that affects larger confluent areas of pleura than pleural plaques. This condition sometimes causes respiratory disability.
- *Pleural effusion* may occur is asbestos exposed individuals. This can cause dyspnoea and usually requires investigation to look for mesothelioma, bronchial carcinoma or other causes.

Plaques only indicate that there has been exposure to asbestos. The risk of other asbestos-related conditions is best quantified according to the latency period, duration of exposure, level of exposure, cumulative exposure and type of exposure.

*Physiological effe*cts
Pleural plaques are nearly always asymptomatic although the knowledge that pleural plaques are there can engender anxiety that may produce symptoms that include dyspnoea and chest tightness. A grating sensation in the chest is described in less than 1%. There are no physical signs.

In some studies, subjects with pleural plaques have been shown to have a small but statistically significant reduction in lung volumes of around 5% compared with to matched controls[6-9]. Other studies have not confirmed this after controlling for parenchymal changes representing fibrosis[10]. The fact that plaques are present on the parietal pleura means that they have little effect on lung expansion. The lung function changes (if any) are considered too small, in a legal sense, to attract compensation. Extensive and confluent plaques are uncommon but can result in a restrictive ventilatory defect that results in disability[11].

Psychological effects
Patients may be aware that they have been exposed to asbestos, but the finding of pleural plaques is evidence to them that the asbestos exposure has had a physical effect. This may increase the anxiety about the risk of other asbestos-related diseases. Patients may also misunderstand the term pleural plaque and may assume they have asbestosis.

This requires careful input by the healthcare professional and to this end the British Thoracic Society, in collaboration with the Department of Health, have produced information for healthcare professionals on pleural plaques.

It could also be argued that the knowledge that asbestos exposure confers risk of developing other more serious conditions is, on its own, enough to produce adverse psychological effects. Indeed how much extra distress is caused by the knowledge that pleural plaques are present over an above that of the knowledge of the increased risk of serious disease caused by asbestos exposure is a legal rather than medical debate.

Reduction in life expectancy

Because asbestos exposure causes disease that can shorten life, there will be a reduction in average life expectancy for exposed individuals. Since there is evidence for cumulative exposure increasing the risk of asbestosis, lung cancer and mesothelioma, it follows that the reduction in life expectancy will be linked to level of exposure. This argument has led some European countries to compensate all asbestos-exposed individuals with a certain level of estimated cumulative exposure. The compensation has been in the form of a reduction in the retirement age.

The Evidence for injury caused by pleural plaques has been extensively reviewed in several documents most notably in the Industrial Injuries Advisory Council's Position Paper No. 23 in June 2009 which set out the reasoning behind the Council's decision not to revise the recommendation previously made in 2005 that Pleural plaques should not be a prescribed disease.[12]

2. Asbestosis and pleural thickening without respiratory disability

Some of the arguments that apply to pleural plaques apply to early asbestosis and pleural thickening that has not caused respiratory disability. The main difference is the degree of certainty that these conditions will cause respiratory disability in the future or lead (in the case of asbestosis) to lung cancer. Both of these conditions are likely to progress and thus the chance of distress and psychological harm is likely to be greater. There are several current uncertainties:

Asbestosis

Early asbestosis is now detected on CT (high resolution) and there can be considerable difficulties in making a firm radiological diagnosis. The prevalence in a large high resolution CT screening study of asbestos exposed workers was 6.8%.[2] Early changes that might indicate asbestosis can persist for years without progression. It is not currently known what proportion of these CT-diagnosed cases do progress to the more familiar form of asbestosis easily recognised on CT and often seen on chest X-ray. Thus, the diagnostic criteria for early asbestosis and the proportion that progress are important if patients are to be accurately informed about prognosis.

Pleural thickening

Diffuse pleural thickening is rare. In the largest CT screening study of asbestos exposed workers the prevalence was 0.9%.[2] The International Labour Organisation has defined criteria for the diagnosis of diffuse pleural thickening by chest X-ray.[13] There must be obliteration of one of the costophrenic angles and extension of the pleural thickening onto the lateral chest wall of at least a quarter of the total height of the chest wall. It is further classified into a quarter to a half and over a half of the height of the chest wall. Diagnosis can be difficult and radiologists can disagree, particularly where pleura is <5mm thick.[14] The rate of progression of the condition is variable and may slow down with time for first diagnosis. [14] CT can be used to clarify the extent of pleural thickening.

Due to the short time-frame with regard to the nomination of an oral evidence giver we would like to apologise that the RCP is unable to send a representative on this occasion. We hope that the written evidence above will be sufficient to inform the Committee's decision.

Yours sincerely

Dr Patrick Cadigan
Registrar

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