Correspondence

Update on lung disease in coalminers

Sir,—This interesting editorial (1987;44:145-8) by Soutar reviews the recently completed studies that have furthered the understanding of progressive massive fibrosis and the risk of the disease (and simple pneumoconiosis) in relation to respirable dust. The review concerning the relation between chronic airflow obstruction (the author includes occupational bronchitis and emphysema under this heading) and respirable dust cannot pass unchallenged, however.

Most would agree that exposure to dust impairs lung function but as a sceptic I suggest that this statement must be qualified. It is the quality of the dust, which may range from inert to highly damaging, that is all important. The quartz content of inert dust clearly influences the silicotic or fibrotic effect. Occupational asthma, occupational bronchitis, and emphysema relate to other particulate and gaseous contaminants.

I would agree that the clinical condition of many miners with severe airway obstruction and emphysema is indistinguishable from non-miners with the same disability due to smoking. This is not surprising since both categories, miners exposed to explosive fumes and heavy smokers, encounter the same hazards—that is, particulate matter and nitrous fumes. Nor is it surprising that Soutar finds that most of the(se) miners have smoked since they have inhaled nitrous fumes from both sources (mine air and tobacco smoke). I reviewed the evidence that particulate matter (coal or carbon dust) absorbs and concentrates nitrous fumes and that these fumes cause severe airway obstruction and emphysema.^{1,2}

Over 50 years ago the leading medical authorities at conferences at Cardiff and Swansea thought emphysema in miners to be a major problem related to fumes from shotfiring.³ The evidence about nitrous fume hazard in mines⁴ and the prevalence of emphysema is now much stronger. The excess of emphysema in coalminers has been established by many careful postmortem studies over the past 50 years⁵⁻¹¹ and the studies by the Edinburgh Institute of Occupational Medicine again confirm this. Furthermore, extensive animal toxicological studies have shown that exposure to low levels of fumes such as occurred in coalmines results in emphysema.¹²⁻¹⁵

Miners with emphysema have been accepted as having nitrous fume poisoning (prescribed disease No 17 now C/15). Successful claims under this heading have been made by miners with pulmonary oedema

(acute poisoning) and with emphysema (chronic poisoning). Some miners have developed both acute and chronic poisoning. Two such claims were only successful after appeal and referral to the High Commissioner in London. Most of the miners with chronic poisoning have now died and only relatively few claimed. Nevertheless, I still see miners who retired prematurely with bronchitis and emphysema after heavy exposure to explosive fumes in hard headings. Happily, the hazard of nitrous fumes from shot firing underground has been greatly reduced over the past 25 years. Nevertheless, recently there has been more shotfiring in some areas, and I have seen a coal miner with near fatal acute poisoning within the past few months. Is nothing being done about the fume content of tobacco smoke?

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Dr Soutar replies:

Certainly the influence of the composition of coalmine dust on risk of airflow obstruction is a relatively unexplored field. Acute pulmonary oedema and bronchiolitis after nitrous fume poisoning are well recognised, but two recent careful studies of coal miners exposed to low concentrations of oxides of nitrogen from diesel fumes and shot firing underground have failed to show any influence of these levels on chronic symptoms or lung function.^{1,2} Kennedy understates the importance of the studies by Ruckley and co-workers, which showed for the first time a quantitative relation between coalmine dust exposure and the risk of centriacinar emphysema.³

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Book review

Mesothelioma. Diagnosis and management. Edited by Frederick Kettle. (Pp 106; £34.00.) Chicago: Year Book Medical Publishers Inc. 1987.

This small book is produced by a group from the Rush Medical College of Rush University, Chicago, and edited by Professor C Frederick Kettle, the professor of surgery at the college. For such a rare condition their experience is quite extensive. Between 1958 and 1985, 56 patients were operated on although other patients were deemed inoperable. The book opens with a short account of the epidemiology and pathogenesis. The pathology is well described and illustrated by black and white photographs. Benign mesothelioma is given some emphasis. These tumours are important to recognise, as surgical treatment is possible and successful. The chapter on imaging of mesothelioma is also beautifully illustrated, with excellent reproductions of CT scans. The chapters on treatment make sad reading. The authors recognise that all treatment is palliative and survival is unlikely to be more than 12-14 months. Surgical treatment is either by pleurectomy or extra pleural pneumonectomy either with or without the diaphragm. Pleurec-

tomy is recommended for palliation. Chemotherapy so far has not improved either the quality or quantity of life, possibly the intracavity administration of cytotoxic drugs may be worth pursuing. Radiation used in combination with systemic chemotherapy may improve survival times, and when used in moderate doses of 4000-5000 rads is often effective in palliating many symptoms, particularly those due to recurrent massive pleural effusions. The book is well indexed and lavishly referenced. It is useful for any physician who may be concerned with the management of patients suffering from malignant mesothelioma as it set out fairly the treatments available and likely to be offered, and will help in advising and counselling the patient and relatives.

M L NEWHOUSE

Notices

VIIth International Pneumoconioses Conference, Pittsburgh, Pennsylvania, 23-26 August 1988

Themes: Evaluation of dust hazards in the working environment through environmental, epidemiological, and medical surveys; progress in prevention, early diagnosis, and medical control of occupational lung disease; ILO International Classification of Radiographs of Pneumoconioses, 1980; silica as a carcinogen/co-carcinogen; progress in oethiopathogenesis of respiratory disorders due to occupational exposure to mineral and organic dust; progress in dust control, and dust suppression technologies for mining and industry; pathology standards for the pneumoconioses; and lung diseases, asbestos; asbestos substitutes; man made fibres. Teaching demonstration: use of ILO classification system of radiographs. For further information: Robert E Glenn, conference chairman, National Institute for Occupational Safety and Health, 944 Chestnut Ridge Road, Morgantown, West Virginia, USA 26505-28888.

International Symposium: man-health-environment, Luxembourg, European Hemicycle, 3-5 March 1988

In conjunction with the Ministries for Environment and Health of Luxembourg and on the occasion of the European Year of Environment the International Society for Research on Civilization Diseases and Environment (SIRMCE) organises an International Symposium on the topic: man-health-environment. The following points will be considered: (1) laws of man and nature (humanity in crisis); (2) impact of