Correspondence

Determinants of chronic bronchitis and lung dysfunction in Western Australian gold miners

SIR,—H Holman *et al* (1987;44:810-8) while concluding that "age, smoking, and underground mining experience all exerted strong effects on the development of chronic bronchitis with or without associated respiratory abnormalities" failed to comment on one possibly interesting feature of their data. Fifty six per cent of their male mineral industry subjects were current cigarette smokers in 1985 as compared with an estimated cigarette smoking prevalence for the generality of male Australians of 30% (unpublished data).

Also, Burr and Holliday reported a 40.3% incidence of cigarette smoking among 246 elderly men in the coalmining town of Caerphilly compared with a 22.9% smoking incidence in 267 elderly men in Bath and attributed the higher prevalence of poor lung function and respiratory symptoms in Caerphilly to the higher rate of smoking.¹

Wright and Couves in a study of Canadian miners who worked in a fluorspar mine when the mine had high levels of radon exposure and were unusually prone to develop lung cancer reported that an astounding 95% of those miners smoked cigarettes, with an average consumption of over 30 cigarettes a day (Roy Morgan Research Centre Pty Sydney, unpublished data 1985).

Since there is no reason to suppose that being a cigarette smoker would increase the likelihood of being employed in these mining operations, it would appear that being employed in those mining operations increased the likelihood that individuals would find satisfaction in cigarette smoking.

If lung damaging conditions in mineral operations can cause individuals to be exceptionally likely to find satisfaction in smoking is it so unreasonable to suggest that lung function impairment from any source, either environmental or inherited, may dispose individuals to find satisfaction in smoking? If so a statistical association between lung pathology and smoking need not indicate causality.

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References

- 1 Burr ML, Holliday RM. Why is chest disease so common in South Wales? Smoking, social class, and lung function: a survey of elderly men in two areas. *J Epidemiol Community Health* 1987;41:140-4.

Book reviews

Pulmonary function tests in clinical and occupational lung disease. Edited by A Miller. (\$67.00.) Orlando: Grune and Stratton Inc, 1985.

Several textbooks are available on pulmonary function testing. This one claims a difference in that it has an epidemiological as well as a clinical perspective, hence its title. There are sections on the tests themselves, their reporting and interpretation, and their applications. Especially in the technical chapters the book is less didactic than is usual for this subject and, although it makes recommendations, it gives the reader the chance to consider alternatives. Related to this, it is well referenced although, in common with most American work, it fails to cite many European publications. The chapters on prediction equations, normal values, and patterns of impairment are particularly good. There is a wealth of illustrative material included as tables, figures, and case histories. Unfortunately, the layout is cluttered and in places it is difficult to follow the main text where it becomes entangled with case histories and legends for figures. The number of subheadings seems excessive. One problem is that the book attempts to summarise certain subjects, presumably to give a more complete coverage, and some of these summaries are too simplistic to be of any use; examples are the sections on comparison of groups (p 439) and regression equations (p 199). The chapter on respiratory disability and impairment is the weakest. It reflects the particular United States definition of these terms and also a lack of exposure to the recent body of British and European publications on the subject of breathlessness.

The chapter on uses of pulmonary function tests in respiratory epidemiology and occupational lung disease is the main justification for the second part of the book title, although there are references to occupational lung diseases elsewhere. It does not attempt a detailed description of the lung function abnormalities associated with different occupational lung diseases. The summary of epidemiological considerations is relevant but rather brief.

The book provides a useful guide to performing lung function tests and interpreting the results and an introduction to the consideration of these tests in the occupational setting. It has a place in lung function laboratories but those seriously interested in occupational lung diseases would need to supplement it with a specific text about these diseases and an epidemiology text.

ANNE COCKCROFT

Correspondence

Risk assessment in the asbestos cement industry

SIR,—The large differences in the calculated risks of lung cancer at the asbestos cement manufacturing plants in New Orleans and in Ontario have been difficult to reconcile, particularly since, as Dr Finkelstein points out (1988;45:201–2), both plants were owned by the same corporation and manufactured similar products. Hughes *et al*, in their welcome update of the New Orleans study (1987;44:161–74), have removed one possible explanation of the discrepancy by tracing over 95% of workers in their cohorts.

An alternative explanation is suggested by the data in one study of the Ontario plant by Finkelstein and Vingilis.¹ Table 5 in that paper gives details of pathological findings for 26 employees in material from necropsy or open operation. In 16 cases asbestosis or interstitial fibrosis is described but in 10 cases silicosis or nodular fibrosis is also mentioned.

In asbestos cement manufacture the raw product may be cured either by leaving it to be cured in the air, a process that takes up to a month, or by autoclaving for 24 hours; in this case finely ground silica must be included in the mix. According to Hodgson the process is capital and energy intensive and favoured in the United States, and one method of forming the raw product, which required the autoclave method of cure, was patented by the corporation owning the New Orleans and Ontario factories.²

Clearly, some of the workers in the Ontario plant must have been exposed to high levels of airborne silica, and it may be important to establish whether silica was also used as a raw material in New Orleans and, if so, whether hygiene precautions were superior. The small number of deaths from pneumoconiosis in the latter plants would suggest that a difference in respect of the exposure silica may contribute to the difference in calculated risks of lung cancer between the two studies.

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66a Warwick Way,
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References

- 1 Finkelstein MM, Vingilis JJ. Radiographic abnormalities among asbestos-cement workers. *Am Rev Respir Dis* 1984;129:17–22.
- 2 Hodgson AA. *Alternatives to asbestos*. Crowthorne, Berkshire: Anjalena Publications, 1987.

Notices

Health related effects of phyllosilicates, Paris, 16–17 March 1989

Subjects to be discussed at this first international conference will be physicochemistry of phyllosilicates, clinical and epidemiological evidence of health effects, biological response to specific phyllosilicates, and implications in industrial hygiene. For further details contact Professor J Bignon, INSERM U 139, Chu H Mondor, 94010 Creteil cedex-France.

Vibration at work, Vienna, 19–21 April 1989

The symposium will provide an information exchange opportunity between scientists and experts in occupational safety. Its target groups are scientists, safety engineers, industrial physicians, and management and labour representatives. The subthemes will be vibration measurement, effects of vibration, technical preventive measures, personal protection, medical preventive measures, and legislation. For further information contact: Allgemeine Unfallversicherungsanstalt Kongressbüro, Adalbert-Stifter-Strasse 65, A-1200 Vienna, Austria.

2nd International Conference on Education and Training in Occupational Health, Espoo, Finland, 6–8 June 1989

Organised by the Finnish Institute of Occupational Health the programme will focus on several aspects of education and training; among others: global needs of training in occupational health, new trends in the working life—new methods to training, training theories and teaching methods and their evaluation. For further details contact Finnish Institute of Occupational Health, Hanasaari Cultural Centre, Espoo, Finland.

Corrections

Determinants of chronic bronchitis and lung dysfunction in Western Australian gold miners (1988;45:503).

In this letter by Rebecca C Ganttt the first paragraph should have ended “. . . Australians of 30% (Roy Morgan Research Centre Pty Sydney, unpublished data, 1985).” Paragraph 3 should have ended “. . . 30 cigarettes a day.”

- 2 Wright ES, Couves CM. Radiation-induced carcinoma of the lung—the St Lawrence tragedy. *Thorac Cardiovasc Surg* 1977;74:495–8.

Symptoms, ventilatory function, and environmental exposures in Portland cement workers (1988;45:368–75)

Owing to a printing error the first line of column 2 on page 370 was omitted. It should read “arithmetic mean. Secondly, when comparing dust . . .”.