

periods if anything but gross effects are to be shown to be statistically significant, while Fletcher *et al*⁴ have discussed a wide range of factors that can cause such analyses to be misleading. Nevertheless, had a pronounced dose-effect relationship been observed for these 70 men over the period of four years it could have been regarded as the first indication of a chronic pulmonary problem.

In practice, the differences observed among the various exposure, smoking, and atopic categories are so small, by comparison with the variability in the data, as to make any interpretation extremely premature.

The overall mean rate of loss of FEV₁ for the 70 men, 46 ml/year, is in line with published figures for studies inclusive of smokers, and the mean loss rate for gas transfer factor is close to its predicted value. The mean rate of loss of FVC, 76 ml/year, is high but, if it is correlated with anything, it is with smoking habits rather than with exposure category or atopic status.

Probably symptoms are produced as a reaction to exposure to the lipopolysaccharide (endotoxin). It has been shown experimentally in animals that Pruteen is capable of activating complement by the alternative pathway, but attempts to show C₃ conversion in exposed men have so far been unsuccessful. Attempts to reproduce the eye symptoms in rabbits or guinea-pigs by exposure to direct contact with the dust have also been unsuccessful (G E Davies, personal communication).

The results have shown that Pruteen can be produced and handled without adverse effects on health, provided that adequate measures are taken to prevent exposure to high concentrations of dust.

I thank Dr G E Davies, ICI Central Toxicology Laboratory, who carried out the immunological work, and Dr G M Paddle, medical statistician, ICI Central Medical Group, who did the statistical analyses, for their invaluable advice and support. I also thank Dr P T Monard, medical officer, ICI, for his help in designing the programme and Dr C A C Pickering, Wythenshawe Hospital, for his guidance and help.

Finally, I thank the staff of the Billingham medical department and the men who participated in the survey for their willing co-operation and interest.

References

- ¹ Parkes WR. *Occupational lung disorders*. London: Butterworths, 1975:392.
- ² Juniper CP, How MJ, Goodwin BFJ, Kinshott AK. *Bacillus subtilis* enzymes: a 7-year clinical, epidemiological and immunological study of an industrial allergen *J Soc Occup Med* 1977;27:3-12.
- ³ Berry G. Longitudinal observations, their usefulness and limitations with special reference to the forced expiratory volume. *Bull Physio-path Resp* 1974;10:643-55.
- ⁴ Fletcher C, Peto R, Tinker C, Speizer FE. *The natural history of chronic bronchitis and emphysema*. Oxford: Oxford University Press, 1976.

CORRECTIONS

Healthy worker effect in the total Finnish population (May 1980)

On page 181 the last paragraph should read: "Of the 4028 who stayed within the same occupational group, 151 died" as is shown in table 4.

A study of the mortality of Cornish tin miners (November 1981)

The recommended standard for men exposed to radon in underground air should have read four working level months (p. 380). The conclusions of the paper are unaffected by this error.

Relationship between type of simple coalworkers' pneumoconiosis and lung function. A nine-year follow-up study of subjects with small rounded opacities (November 1981)

The authors regret that in their tables 4-7 the units of compliance and recoil pressure while reported to be in SI units were in fact given in traditional units; to make the conversion the numerical values for compliance and recoil pressure should respectively be multiplied by and divided by 10.