Correspondence

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

SIR—Gantt and Lincoln (1988;45:503) of the Philip Morris Management Corporation have wrongly inferred from our study of Western Australian gold miners (1987;44:810–8) that “. . . lung damaging conditions in mineral operations can cause individuals to be exceptionally likely to find satisfaction in smoking. . . .” What they have ignored is the fact that in table 4 of our paper current smokers were shown to have more than a fourfold increase in obstructive chronic bronchitis *after* adjustment for mining experience. Thus the adverse effect of smoking cigarettes on lung function was not explained by smokers having worked in a more hazardous environment. Moreover, the prevalence of smoking in the mineral industry should not be compared with the total male population of Australia without adjustment for differences in age structure and socioeconomic status.

Gantt and Lincoln have also ignored one of the essential conditions necessary to substantiate a causal relation, which is the temporal sequence whereby the cause must precede the effect. There is ample evidence to indicate that people smoke first and develop respiratory problems later¹; not the other way around as the tobacco industry would like us to believe.

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Outcome of retrospective cohort studies and study size: a publication bias?

SIR—Referring to their survey, Swaen and Meijers (1988;45:624–9) are surprised to find that there is no relation between the size of published retrospective cohort studies and their propensity to show “positive” results. Since the relation between size and power of studies is indisputable, what they have described may be attributable to publication bias. This is “the

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phenomenon in which studies with positive results are more likely to be published than studies with negative results,”¹ whether this be due to selection on the part of the author or the editor. Good evidence for publication bias in general medical publications exists¹ and, in particular, the extent of the bias is greater the smaller the study. This can be explained thus: an editor (author) may be reluctant to publish (submit) the results of a small study unless it shows a “significant” result, whereas non-significant results in large studies are considered more publishable. Greater “selection” of small studies according to their results would tend to hide the relation between size and power in published work.

Publication bias can be a serious problem in the interpretation of scientific research—for example, it has been suggested that the association reported between passive smoking and lung cancer is an artifact of publication bias.² Begg and Berlin state that “methodological standards for information dissemination” (via journal articles) “is a topic which urgently requires attention” and offer some suggestions.¹

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Phenoxy herbicides and non-Hodgkin's lymphoma in New Zealand: frequency and duration of herbicide use

SIR—I have previously reported the findings of a New Zealand case-control study of non-Hodgkin's lymphoma and exposure to phenoxy herbicides.¹ More recently, this study has been expanded to include a total of 183 male cases of non-Hodgkin's lymphoma aged 20–69 registered with the New Zealand Cancer Registry during the period 1977–81, and 338 male controls with other forms of cancer matched for age and year of registration.² This study was initiated as a result of the malignant lymphoma study of Hardell *et al* in Sweden.³ In both studies subjects were classified as exposed to phenoxy herbicides if they had used these chemicals for at least one day. Using this