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2 Weisberger AS, Levine B, Storaasli JP. Use of nitrogen mustard in the treatment of serous effusions of neoplastic origin. *JAMA* 1955; **159:** 1704–7.
3 Friedman MA, Slater E. Malignant pleural effusions. *Cancer Treat Rev* 1978; **5:**49–65.

Nebulised salbutamol

Sir,—The paper by Wilson and Connellan in your November 1980 issue[1] demonstrated that nebulised salbutamol given at home to patients with chronic bronchitis and emphysema was significantly better than placebo. This is not surprising since the dose they gave was 5 mg which is 50 times greater than a single dose from a metered aerosol. It would be more relevant clinically to compare the metered aerosol for two weeks in conventional dosage with nebulised salbutamol.

However, I am really writing to point out that because large doses of nebulised salbutamol cause brochodilatation it does not necessarily follow that their widespread use is advisable. Almost certainly the medihaler iso forte caused similar degrees of bronchodilatation, but it may also have caused an increased number of deaths in asthmatic patients. A cause and effect relationship was never proved but in view of the circumstantial evidence it would be sensible to recognise at least the possibility that large doses of salbutamol may have similar consequences. I am aware of one 14-year-old asthmatic boy who died at home recently five minutes after inhaling a similar dose of nebulised salbutamol. Obviously one case tells us nothing more than to be aware of a possible association, though I would be interested to hear of any similar occurrences.

I am not suggesting that nebulised salbutamol should not be given at home, but it should be given in the knowledge that little is known about the long-term consequences and there may be a risk involved. Further work is needed to assess the long-term effects of this treatment. Until this is done care should be taken in recommending it on the basis of short-term studies on small numbers of patients where benefit is assessed but not long-term risk.

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Reference

1 Wilson RSE, Connellan SJ. Domiciliary nebulised salbutamol solution in severe chronic airway obstruction. *Thorax* 1980; **35:**873–6.

Sir,—I agree that the effect of nebulised salbutamol in our study is dependent on the dose given. The group of patients studied had all received regular conventional therapy from a metered aerosol without symptomatic benefit, and the question asked was whether in this group with severe airway obstruction large doses of inhaled bronchodilator was more effective than nebulised water. Not surprisingly, it did prove more beneficial, although when the study was undertaken some two and a half years ago many colleagues were sceptical about this. I would agree that comparison of drug dosage against drug dosage in this type of patient would be valuable, but feel that the use of nebulised respirator solution provides a useful and convenient way of delivering large doses of bronchodilator to the airways of patients who can be shown to benefit. I agree that we need to know more about the long-term risk of patients using nebulised bronchodilators, and would be against widespread use of such therapy. However, I feel that there are certain patients who should be considered for nebuliser therapy when conventional therapy has not been beneficial.

We have about 80 patients, mostly with chronic bronchitis and emphysema, on regular domiciliary therapy and have been running a nebuliser service for three and a half years. Inevitably, deaths among this largely elderly group with severe airway obstruction and respiratory failure have occurred—but we have not been able to implicate nebulised salbutamol as a cause.

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