EFFECT OF INTRAVENOUS INJECTION OF SALBUTAMOL IN ASTHMA

The suggestion made by Spiro, Johnson, May & Paterson (1975) in a recent paper in this Journal that salbutamol by intravenous injection is a useful addition to the treatment of asthma is in agreement with the conclusion reached by Fitchett, McNicol & Riordan (1975). One of the stated objectives of the study by Spiro *et al.* (1975) was, however, to compare the effect of intravenous and aerosol salbutamol in ten asthmatic patients. It might therefore have been expected that a statement to the effect that intravenous salbutamol was a useful *addition* to the treatment of acute asthma would have been supported by evidence indicating its superiority, in at least some respects, to the alternative treatment, aerosol salbutamol, given in the same dose. In fact, the data presented in the article suggest that intravenous salbutamol did not produce a greater degree of bronchodilatation than aerosol salbutamol, that its duration of action was considerably shorter and that it caused quite severe cardiovascular changes, which were not observed with the same dose of aerosol salbutamol. It could therefore be argued that the authors should have added a rider to the last conclusion in their summary to the effect that aerosol salbutamol is preferable to intravenous salbutamol on the grounds that it produces a similar degree of bronchodilatation for a longer period without the disturbing cardiovascular effects associated with intravenous administration.

There may well be a case for intravenous salbutamol in very severe asthma when, because of extreme dyspnoea, a patient may be unable to inhale a full therapeutic dose from a pressurised aerosol. The authors have, however, made the point that aerosol salbutamol 'appears ten times more potent than by the intravenous route' and have clearly shown that in equivalent dosage it produces 'no cardiovascular changes'. It would thus appear more logical, when suitable facilities are available, to administer larger doses of salbutamol aerosol by intermittent positive-pressure ventilation (Choo-Kang, Tribe & Grant, 1974) than to give the drug intravenously to patients with very severe asthma.

IAN W.B. GRANT

Respiratory Diseases Unit, Northern General Hospital, Edinburgh EH5 2DQ

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References

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Drs Spiro, Johnson, May & Paterson reply as follows:

We would agree entirely with the comments made by Dr Grant in the above letter. The aim of our study was to construct an accurate dose-response curve to intravenous salbutamol and we did not consider this possible in patients with severe asthma. We therefore chose to study patients who were not severely ill and so had an adequate response to aerosol salbutamol. We would agree with Dr Grant, therefore, that we should have added a 'rider' that aerosol salbutamol is preferable to intravenous salbutamol *in such patients.*

We would also agree that in the hospital treatment of patients with severe asthma, large doses of salbutamol aerosol by intermittent positive pressure breathing (IPPB) have been shown to be highly effective. We nevertheless feel that in the acute attack, particularly in domiciliary practice, there is a place for a parenteral injection. The aim of this study was to try and