histamine, 5-hydroxytryptamine, serum or glandular kallikrein and prostaglandins are reduced or abolished, providing that there is a delay of an hour or more between the subcutaneous injection of 401 and the intradermal skin tests. The anti-inflammatory activity is not markedly affected by denervation of the inflammatory test site; administration of phenoxybenzamine (10 mg/kg) or adrenalectomy. These results indicate that 401 acts by making the peripheral microvascular bed unresponsive to phlogistic agents.

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The fate of salbutamol administered by intermittent positive pressure breathing

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Salbutamol is a selective β_2-adrenoceptor stimulant drug used as a bronchodilator in the treatment of asthma. It is normally given orally (2 mg tablet) or from a pressurized aerosol (0·1 mg/puff). It has become common practice in several centres to treat inpatients by administering a large dose, up to 10 mg, of salbutamol by intermittent positive pressure ventilation and nebulization. It was decided to investigate the fate of tritiated salbutamol (10 mg) given from a 'Bird' respirator, in four asthmatic patients who were receiving this form of treatment. There was an average increase in forced expiratory volume in 1s of 45% (23–67%) and there were no significant side-effects.

Eighty per cent of the dose administered was recovered either from the 'Bird' nebulizer or from the patient's expired air, which was collected during administration of the salbutamol. Of the remainder, the majority was excreted in the urine within 24 h; 50% of this was free salbutamol and the rest was metabolite. This metabolite is the same as that recovered after other routes of administration (Evans, Paterson, Richards & Walker, 1971; Evans, Richards, Walker & Paterson, 1971).

The maximum plasma level ranged from 50–120 nM. There was an initial rapid rise of plasma radioactivity, which at 30 min was greater than half the peak level eventually seen. In this initial phase, the major proportion of plasma radioactivity was free salbutamol. The pattern of absorption and the metabolic data suggest that proportionately more salbutamol reaches the lung when given by intermittent positive pressure breathing than when taken by pressurized aerosol.

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