stopping it, but some months later developed identical chorea again, without having restarted the use of the preparation. When examined it was clear that she was in the early stages of pregnancy.

Sydenham's chorea is uncommon in young adults these days, and when it does appear in otherwise healthy young women most careful inquiry should be made to determine if they have been taking one of the progestogen-oestrogen preparations, for, as these may be prescribed for purposes other than contraceptive, the women may not themselves consider that they are on the pill.—I am, etc.,

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Bronchodilator Aerosols

SIR,—In view of recent misgivings about the use of bronchodilator aerosols, I feel it may be important to report preliminary findings in this field. For some time I have been interested in the fall in arterial oxygen tension following the administration of these substances.[1] Although I do not suggest that it is the cause of death associated with the use of these aerosols, it may well be a contributory factor, especially in already hypoxic patients who have reached the steep slope on the oxygen-dissociation curve. I have therefore carried out an investigation on the changes in blood gases associated with six different aerosol bronchodilators.

	Number of Cases	Number with Blood Oxygen Fall	Average Oxygen Fall (mm. Hg)
Isoprenaline 1% ..	11	10	6·6
Isoprenaline 1%, papaverine 2% (Neo-Epinine No. 2) ..	18	10	8·4
Papaverine 2% ..	8	6	6·6
Orciprenaline (Alupent)	8	4	7·6
Salbutamol (Ventolin)	12	10	6·3
Isoprenaline, phenylephrine (Medihaler-duo)	12	1	One case–3·0

All patients had chronic airways obstruction which excludes asthma. There was no significant change in the P_{CO_2} values and the average increase in the forced expiratory volume ($F.E.V._1$) for each compound was about 11%.

As may be seen from the Table, with all bronchodilators tested except a combination of isoprenaline and phenylephrine (Medihaler-duo) there was a significant number of patients whose blood–oxygen tension showed a decrease. Using the latter substance only one patient showed a decrease (3 mm. Hg) and the average increase was 9·9 mm. Hg.

The fall in oxygen tensions is probably due to the powerful vasodilating properties of bronchodilators, particularly around hypoxic areas of lung, increasing the venous admixture. It would appear that the addition of an alpha-receptor stimulating drug—phenylephrine—causes constriction or prevents dilatation of the blood vessels and prevents this possibly dangerous side-effect. This may be an important consideration in the manufacture and prescribing of bronchodilators both for aerosol and for parenteral use in the future. Further investigations are being carried out in this department.—I am, etc.,

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REFERENCE

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Death from Neostigmine Treatment

SIR,—Several points arise from the interesting case report of Dr. James C. Briggs and others (8 November, p. 344) of the child with megacolon who died of neostigmine overdose.

Should not atropine have been given to reverse the bradycardia and profuse salivation noticed on admission, characteristic of the muscarinic effect of acetylcholine? It is appreciated that this in itself would not have averted the fatal outcome.

More important, however, the immediate cause of death appears to have been the apnoea from muscular paralysis. No mention is made in the report of the ability of neostigmine in high doses to cause neuromuscular block by prolonged depolarization of the motor end plate;[1] surely it is well established that the treatment of apnoea due to muscular paralysis is artificial ventilation, of which again no mention is made.

Neostigmine, atropine, and artificial ventilation are in daily use by anaesthetists and "intensivists." Does this not reinforce the view that overdosage involving respiratory inadequacy is more often appropriately managed by physicians specializing in anaesthesia and intensive care?—I am, etc.,

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Alternative to Neostigmine for Megacolon

SIR,—The death of a child on neostigmine therapy for megacolon (8 November, p. 344) is, of course, a tragedy, and I would like to bring to the attention of clinicians an alternative and safer drug than neostigmine—namely, bethanechol chloride.

Neostigmine is usually recommended as the cholinergic drug of choice in gut motility disorders, partly because it is to be found in every hospital pharmacy. However, its pharmacology is complex, as in addition to being primarily an anticholinesterase agent[1] it also has marked nicotinic actions at both parasympathetic and sympathetic ganglia.[2,3] These latter actions increase its potential for producing toxic side-effects.

On the whole, cholinergic drugs are more effective in enhancing intestinal motility than anticholinesterase agents, and studies have shown that the most promising of these is bethanechol chloride.[4] The actions of this drug are purely muscarinic and side-effects are minimal. Its effect on the intestinal tract is more marked, relative to its other actions, than any other choline derivative, and it acts on both innervated and denervated intestine.[5] It has been shown to be of value in the management of ileus,[6] and, as it can be taken orally, its effectiveness in megacolon would be well worth a try.—I am, etc.,

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Unusual Effect of Fenfluramine

SIR,—Dr. M. Y. Alvi's letter (25 October, p. 237) describing an unusual effect of fenfluramine prompts me to report the following cases:

A 45-year-old woman taking phenelzine 15 mg. t.d.s., and chlordiazepoxide 5 mg. t.d.s., developed severe headache, neck stiffness, and nausea within an hour of taking a 20 mg. fenfluramine (Ponderax) tablet. Shortly afterwards she "collapsed" and remained stuporous for approximately four hours. She remained clouded and drowsy for the rest of the day, and made a gradual recovery over the next 72 hours.

A 56-year-old woman on chlordiazepoxide 10 mg. t.d.s. began to take fenfluramine one tablet twice daily for weight reduction. After several days it was noted that she was perplexed and confused towards evening, and restless throughout the night. After approximately one week on fenfluramine she became acutely agitated towards evening, misidentified people about her, and expressed vague paranoid ideas. On examination she was distressed, overactive, showed pupillary dilation, and her consciousness was clouded. On phenothiazines and sedation she settled, the fenfluramine was stopped, and there has been no recurrence.

An 18-year-old youth with a long history of drug abuse was of particular interest because under the influence of amphetamine and related drugs he manifested a distinct facial dyskinesia both while "going up" and "coming down." Ashcroft[1] *et al.* have reported "a physical sign widely recognized among the amphetamine fraternity. This takes the form in addicts receiving the drug of continuous chewing or teeth-grinding movements, with rubbing of the tongue along the inside of the lower lip, often leading to trauma to the tongue and lip with ulcers visible to inspection at both sites." This boy, however, showed a distinct pattern of movement similar to the bucco-linguo-masticatory dyskinesia described by Sigwald[2] and recently reviewed by Crane.[3] On one occasion he was seen chewing gum as his usual means of disguising the facial movement, and complained that on the suggestion of some friends he had had "half a dozen or so" Ponderax (fenfluramine) tablets, which they had been successfully using to obtain "trips" or "highs," but got nothing from it but his teeth-grinding and movements. He said, "Except for the grinding, which has gone on all night, I wouldn't have known they were pep pills."

Thus, a drug interaction with monoamine-oxidase inhibitors similar to that which occurs with amphetamines, and acute confusional