TABLE 1. *Degree of potentiation (ratios) of the effects of phenylpropanolamine, noradrenaline, adrenaline and isoprenaline on heart rate (HR), diastolic (DBP) and systolic blood pressure (SBP) in 3 healthy male subjects after a course of tranylcypromine (30 mg daily) for 8–14 days*

	Phenylpropanolamine potentiation of			Noradrenaline potentiation of		
Subject	Fall in HR	Rise in DBP	Rise in SBP	Fall in HR	Rise in DBP	Rise in SBP
D.W.V.	5·8	3·0	4·6	4·3	1·3	2·0
P.B.	6·3	10·4	4·6	1·6	†	†
M.F.C.	2·5	4·6	3·9	2·0	2·7	1·7

	Adrenaline potentiation of			Isoprenaline potentiation of		
Subject	Rise in HR	Fall in DBP	Rise in SBP	Rise in HR	Fall in DBP	Rise in SBP
D.W.V.	1·8	4·2	3·0	2·9	3·6	1·0
P.B.	4·5	2·0	1·8	2·3	2·5	−1·7
M.F.C.	2·6	‡	2·6	4·0	3·1	1·8

†In this subject noradrenaline caused bradycardia but satisfactory dose related effects on blood pressure were not obtained. There was no evidence of substantial potentiation.

‡In this subject low doses of adrenaline caused minimal falls in DBP, increasing the dose caused small rises in DBP which were potentiated to a similar degree to that of SBP.

times (diastolic blood pressure) while the reflex bradycardia was potentiated approximately 2·5–6 times. In contrast, the pressor effect of NA was only slightly potentiated although the reflex bradycardia was more marked. There was a moderate potentiation (approximately 2–4 fold) of the effect of adrenaline on the heart rate and diastolic pressure and a less marked potentiation of the rise in systolic pressure. Similar results were obtained with isoprenaline but the rise in systolic pressure was not potentiated.

The changes in blood pressure induced by intravenous catecholamines in subjects taking tranylcypromine appear to be unimportant. Since effects on β-adrenoceptors are potentiated, however, an increased risk of cardiac dysrhythmia may exist, though none was seen in our healthy subjects.

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Interactions between catecholamines and tricyclic and monoamine oxidase inhibitor antidepressive agents in man

F. S. K. BARAR, A. J. BOAKES*, L. B. BENEDIKTER, D. R. LAURENCE, B. N. C. PRICHARD and P. C. TEOH

Clinical Pharmacology Section, Medical Unit, University College Hospital Medical School, London WC1

The pressor effect of indirectly acting sympathomimetic amines is potentiated in subjects receiving a monoamine oxidase inhibitor drug (Elis, Laurence, Mattie

& Prichard, 1967; Hunter, Boakes, Laurence & Stern, 1970). There is evidence that the pressor effect of noradrenaline is not potentiated in these subjects (Horwitz, Goldberg & Sjoerdsma, 1960; Elis, Laurence, Mattie & Prichard, 1967). Svedmyr showed that protriptyline (a tricyclic antidepressive agent) potentiated the pressor effect of noradrenaline and, to a lesser extent, that of adrenaline (Svedmyr, 1968).

In the present study four healthy volunteers (age range: 30–48 years) received infusions of adrenaline, noradrenaline, phenylephrine and isoprenaline before and after a tricyclic antidepressive agent (imipramine). Two of them also received infusions before and after an hydrazine monoamine oxidase inhibitor (phenelzine). Infusions were given for periods of 5 min at each concentration (steady state usually occurring after 3 min), the concentrations being increased in a logarithmic fashion.

Infusions in subjects taking the tricyclic antidepressive agent (imipramine) revealed potentiation of the pressor effects of noradrenaline (4–8 times), adrenaline (up to 2 times) and phenylephrine (up to 3 times). Further investigations in which the subjects were fully atropinized (Chamberlain, Turner & Sneddon, 1967), indicate that these pressor effects are not solely due to the atropine-like action of imipramine.

Infusions in subjects taking the monoamine oxidase inhibitor (phenelzine), revealed potentiation of the pressor action of phenylephrine (2 times), but no potentiation of the pressor effect of noradrenaline or adrenaline. There was no potentiation of the tachycardia produced by isoprenaline.

Similar studies are in progress in two subjects taking the non-hydrazine monoamine oxidase inhibitor, tranylcypromine.

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Absorption, distribution and elimination of ^{14}C-amiloride in normal human subjects

M. F. GRAYSON, A. J. SMITH* and R. N. SMITH

Department of Medical Research, Merck Sharp and Dohme Ltd. and Department of Clinical Pharmacology and Therapeutics, University of Sheffield

The potassium-retaining, pyrazine-carboxamide diuretic, amiloride, labelled with ^{14}C in the guanidine side chain (specific activity 0·5 μCi/mg) has been given in doses of 20 mg orally on two occasions to each of six, normal fasting subjects. Amiloride is not protein bound or metabolized in man and ^{14}C counts reflect drug concentration in body fluids.

Despite the use of two different tablet formulations, plasma and urinary concentrations of amiloride were comparable for each individual. Peak mean plasma concentrations (47·5 ng/ml$\pm$13·8 S.D.) were achieved at 4 h and detectable plasma activity per-