effects of mazindol and (+)-amphetamine by prolonging the feeding duration, whilst strongly enhancing that of (±)-fenfluramine, particularly by an additional reduction in eating rate.

Drugs were generously donated by Wander Pharmaceuticals (Mazindol), Janssen Pharmaceutica (spiperone), and Servier Laboratories (dl-fenfluramine).

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Effect of cooling on efflux of [^{3}H]-noradrenaline in canine cutaneous veins

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In the dog saphenous vein, moderate cooling augments the constrictor response to exogenous noradrenaline (Vanhoutte & Shepherd, 1970). This augmented response is due to the increased affinity of the alpha-adrenoceptors of the venous smooth muscle cells for the catecholamine (Janssens & Vanhoutte, 1978). In the same preparation, the contractile response to sympathetic nerve stimulation is also augmented by moderate cooling (Vanhoutte & Shepherd, 1970), although in veins previously incubated with [^{3}H]-noradrenaline the overflow of labelled transmitter is depressed (Vanhoutte & Verbeuren, 1976). The present experiments were performed to try to explain this discrepancy.

Isolated strips of dogs' saphenous veins were incubated with [^{3}H]-noradrenaline, mounted for isometric tension recording, and superfused with Krebs-Ringer solution (Vanhoutte, Lorenz & Tyce, 1973). The amounts of intact labelled transmitter and its metabolites present in the superfusing fluid were determined by column chromatography (Verbeuren, Coen & Vanhoutte, 1977). Since the neuronal uptake of noradrenaline is depressed by moderate cooling (Janssens & Vanhoutte, 1978), all experiments were performed in the presence of cocaine (3×10^{-5}M).

In basal conditions, cooling from 37 to 24°C caused a decrease in tension and in the efflux of [^{3}H]-noradrenaline and its metabolites; this was seen both in the control solution and in the presence of phentolamine (3×10^{-6}M) and yohimbine (3×10^{-7}M). Electrical stimulation (2 Hz) caused an increase in tension and in efflux of tritiated compounds; cooling (from 37 to 24°C) augmented the contractile response, but depressed the efflux of tritiated transmitter and its metabolites. In the presence of phentolamine or yohimbine, cooling still decreased the efflux of tritiated compounds. Increasing the K^+ concentration from 5.9 to 50 and 120 mEq/l caused release of [^{3}H]-noradrenaline; in these conditions cooling from 37 to 24°C decreased the efflux of [^{3}H]-noradrenaline and its metabolites significantly more than during electrical stimulation.

The present experiments indicate that: (1) unlike the augmented response to exogenous noradrenaline, the decrease in neurotransmitter overflow caused by cooling cannot be explained by an increased affinity of the prejunctional alpha-adrenoceptor, since it persisted in the presence of both a specific (yohimbine) and a non-specific (phentolamine) presynaptic alpha-adrenergic antagonist; and (2) since the contractile response to nerve stimulation is augmented to the same extent by cooling as that to exogenous noradrenaline, the decrease in tritiated overflow noted in the present experiments with cooling may not reflect the effect of the latter on the synaptic cleft concentration of the adrenergic transmitter.

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