Interference from catecholamines is eliminated by the use of a suitable β-adrenoceptor blocking drug, infused intraluminally on to the isolated colon. Levels are also monitored using the isolated chick rectum.

Blood samples from rats weighing less than 200 g are taken from the abdominal aorta under ether anaesthesia ; the sample is centrifuged at 1,600 g for 8 min and the plasma (0·1 ml aliquots) injected into superfusing Krebs solution. In this case, the tissue responses are calibrated by injection of 0·1 ml aliquots of angiotensin II dissolved in plasma from bilaterally nephrectomized rats.

This technique allows the routine estimation of angiotensin II-like activity in experimental and spontaneous hypertension at all stages of its development.

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The isolated blood perfused rat tail preparation

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The isolated rat tail preparation provides a convenient and easily accessible ganglion-free vascular bed for the study of pharmacologically active compounds and the vascular responses to sympathetic nerve stimulation (Wade & Beilin, 1970).

The modification which is to be demonstrated, involves the perfusion of the tail vascular bed with blood drawn from, and returned to, a donor rat.

Drugs may thus be administered either directly via the arterial cannula into the vascular bed of the isolated tail, or may be administered to the donor rat at dose levels equivalent to those used for effecting cardiovascular activity in the intact circulation. In the latter case it would be expected that the agents so administered would be delivered, in due course, to the isolated rat tail vascular bed at pharmacologically active blood concentrations.

This technique thus enables combined *in vitro* and *in vivo* examination of drug activity. The demonstration will show the effects of four anticholinesterase compounds administered intravenously to the donor rat, at their commonly employed dose levels, on the responses to sympathetic periarterial nerve stimulation.

It will be seen that eserine (0·4 mg/kg) and BW284C51 (0·4 mg/kg) markedly enhanced the responses to nerve stimulation (3–12 Hz) whilst neostigmine 0·2 mg/kg) and Ro 02–0683 (0·2 mg/kg) have little effect.

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