A method of producing permanent, complete atrioventricular block in the rat

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The production of permanent complete atrioventricular (AV) block has in the past meant open heart surgery (Bailey & Likoff, 1955) or thoracotomy (Hurwitz, 1971) or ingenious instrumentation (Babotai & Brownlee, 1971), none of which are readily compatible with small animal work. A simple and effective technique that has been used in the rat will be demonstrated.

Following induction of anaesthesia of the animal, the right jugular vein is exposed, and a length of 19 gauge stainless steel wire inserted through a cut in the wall. This probe is insulated along its length but exposed at its tip and is connected by the other end to the chest lead of the standard e.c.g. leads. Lead V is recorded as the probe is gently manipulated toward the right atrium by means of the length projecting from the vessel. Inspection of the lead V recording enables the experimenter to position the probe on the AV node. When properly located, mechanical AV block ensues, which is made permanent by connecting the probe to an Endofrex diathermy apparatus and ablating the node by the high current produced.

The probe is then withdrawn, complete (permanent) AV block verified using lead II e.c.g., the jugular vein either catheterized or tied off, and the animal allowed to recover.

No regression of the block has yet been encountered.

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Reversal of competitive neuromuscular blockade by RX 67668 in normal volunteers

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RX 67668 (cis-2-phenyl-1-(N-pyrrolidinyl) cyclohexane hydrochloride) is a potent anticholinesterase which is unrelated chemically to established cholinesterase inhibitors. It appeared from animal experiments (Doxey, Metcalf, Smith & Whittle, 1972) to have a greater affinity for nicotinic receptors at the neuromuscular junction than for muscarinic parasympathetic receptors. Its potential as an anticholinesterase in man has been assessed in four healthy young volunteers by comparing its ability to reverse partial competitive neuromuscular blockade with that of an established drug, neostigmine.

Twitches of the anterior compartment muscles of the leg were evoked by supramaximal stimulation of the lateral popliteal nerve at a frequency of 0·16 Hz using