

In conclusion, the present results indicate that  $\alpha$ -chloralose or urethane anaesthesia combined with the intravenous administration of atropine sulphate, provide favourable experimental conditions for the study, in the thalamus, of ACh responses which might be attributed to the stimulation of nicotinic receptors.

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## The effect of cholinomimetic drugs on the isolated hemisected immature rat spinal cord

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Motoneuronal responses of the isolated hemisected immature rat spinal cord (Otsuka & Konishi, 1974) were measured as changes in ventral root polarity. Drugs were dissolved in 2 ml Ringer solution and perfused on to the isolated hemicord at 0.8 ml/minute. The temperature of the preparation was maintained at  $20 \pm 0.5^\circ\text{C}$ .

Acetylcholine (1-10 mM) evoked depolarizing responses whereas choline (1-10 mM) had no effect. Continuous perfusion with neostigmine (1  $\mu\text{M}$ ) produced a small depolarization which levelled off and at this stage depolarizing responses to 10-100  $\mu\text{M}$  acetylcholine could be obtained.

It was surprising to find that responses to acetylcholine were still elicited from hemicords treated

with 1 mM procaine or 0.1  $\mu\text{M}$  tetrodotoxin; an indication that motoneurons were responding to cholinomimetics directly.

Responses to 50  $\mu\text{M}$  acetylcholine were abolished by atropine (1  $\mu\text{M}$ ) and were unaffected by tubocurarine (10  $\mu\text{M}$ ) or hexamethonium (10  $\mu\text{M}$ ). Thus it would appear that motoneurons of the immature rat possess muscarinic receptors. Atropine sensitive acetylcholine responses of cat motoneurons *in vivo* have been demonstrated recently by Zieglängsberger and Bayerl (1976).

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