

The section of the short ciliary nerves reverses the pilocarpine action in guinea pigs, its effect being constriction of the pupil. Atropine abolishes the miotic action of pilocarpine in denervated eyes.

Pilocarpine thus produces pupillary dilatation due to paralysis of parasympathetic myoneural junctions in the normal eyes; and constriction due to stimulation of the same junctions in the denervated eye of the guinea pig.

4147

Action of Sympathomimetic Drugs on Pupil of Guinea Pig.

THEODORE KOPPANYI.

From the Department of Pharmacology, Syracuse University.

Meltzer and Auer¹ showed that subcutaneous injections or instillations of epinephrin have no effect upon the normal pupil of the cat and rabbit. Ephedrine and cocaine, however, produce mydriasis even in normal animals. Ergotoxin, or ergotamine, are said to cause miosis in dogs and cats and mydriasis in rabbits.

In guinea pigs the instillation of a few drops of epinephrin hydrochloride, 1:1000, causes a maximal dilatation of pupils of normal animals and of animals whose cervical sympathetic has been cut below the superior cervical ganglion. Ordinary doses of arecoline and physostigmine do not constrict the pupil dilated by epinephrin. There is a complete loss of light reflex. Ephedrine and cocaine behave exactly like epinephrin.

Ergotamine tartrate administered by instillation into the conjunctival sac produces mydriasis. But injection of the drug into the anterior eye chamber causes, after an initial dilatation, constriction of the pupil, which lasts for at least 12 hours. The pupils constricted by ergotamine do not react to other sympathomimetic drugs, but do respond to atropine.

¹ Meltzer, S. J., and Auer, C. M., *Am. J. Physiol.*, 1904, xi, 28, 37, 40.