

long. This pin serves as a shaft or axle for the glass bearing to which the writer is cemented. Very smooth glass beads (1 mm bore, 2 mm long) on either end of the glass bearing hold it in place and prevent side motion. The pin is inserted into the end of a reed (1 mm bore, 8 cm long) such as is ordinarily used in kymograph recording. This reed is attached as usual to the recording tambour. Made and suspended as described

above, the writer is free swinging and adapts itself to an uneven surface with uniform and minimal frictional resistance.

Summary. A free swinging writer which records on smoked surfaces with a minimum of frictional resistance is described; its construction is explained and illustrated. Specimen tracings of difficult recordings are illustrated.

16282 P

On New Adrenolytic Compounds.*

G. R. DE VLEESCHHOUWER. (Introduced by C. Heymans.)

From the J. F. Heymans Institute of Pharmacology, University of Ghent, Belgium.

In previous papers¹ we have demonstrated that several so-called sympathicolytic substances have mainly adrenolytic properties. In fact, these substances (benzodioxanes, dibenamine, dihydroergotamine, corynanthine) reverse the epinephrine-hypertension, but do not suppress sympathetic-vasopressor effects.

The present experiments were undertaken with two new synthetic compounds: α -naphthylmethylethyl- β -bromoethylamine HBr (SY-28) and β -(2-biphenyloxyethyl)-n-butyl- β -chloroethylamine HCl (SY-30).[†]

Some pharmacological properties of these compounds were studied by Loew, Achenbach and Micetich.^{2,3,4}

Methods. The experiments were performed on chloralosed dogs. The blood pressure was recorded from a femoral artery. All

drugs were injected intravenously and sometimes intra-arterially.

Results. A./ α -naphthylmethylethyl- β -bromoethylamine HBr (SY-28).

1. *Effects on blood pressure, heart rate and respiration.* Intravenous injection of 1 mg/kg SY-28 produces an instant, moderate, transient hypotension and no change of heart-rate. The respiration becomes slow and irregular during the injection, but after a few minutes the dog is breathing normally.

Intra-arterial injection of small quantities of SY-28 (the animal being prepared according to the 3-manometers-method⁵) induces a marked and local vasodilatation.

Some hours after intravenous injection of SY-28, one remarks a slow and progressive fall of blood pressure. This corroborates Loew's observations, but we believe this hypotension to be due to a central depressing action of the drug.

2. *Effects upon neuro-vasomotor reactions.*

The vasopressor and vasodepressor reflexes of carotid sinus origin are slightly depressed after injection of 1 mg/kg SY-28, while vasopressor effects of epinephrine are completely reversed. Although reversal of carotid sinus vasopressor reflexes never appears, a slow progressive depression of these reflexes has

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† Kindly supplied by Dr. Earl Loew and Parke, Davis & Co.

¹ De Vleeschhouwer, G. R., *C. R. Soc. Biol.*, 1933, **115**, 187; 1934, **115**, 1247; 1935, **118**, 792; *Arch. int. Pharmacodyn. et Thér.*, 1935, **50**, 251; *Proc. Soc. Exp. Biol. and Med.*, 1947, **66**, 151; in press.

² Loew, Earl R., and Micetich, A., *Fed. Proc.*, 1947, **6**, 351.

³ Achenbach, P., and Loew, Earl R., *Fed. Proc.*, 1947, **6**, 304.

⁴ Loew, Earl R., personal communication.

⁵ Nolf, P., *Bull. Acad. Roy. Belg.*, 1902, p. 895.

been observed.

The neuro-vasopressor reflex originated by stimulation of the central end of the vagus is scarcely altered in the dog pretreated with SY-28.

The diphasic hypertension following electric stimulation of the splanchnic nerve, in normal dogs, is dissociated into a monophasic rise and a secondary fall of blood pressure after injection of 1 mg/kg SY-28. No reversal of the initial neuro-vasopressor response of sympathetic origin occurs.

3. *Effects on hypertensive substances*

Intravenous injection of 1 mg/kg SY-28 reverses the vasoconstrictor effects of epinephrine and inhibits its tachycardic action.

Same doses reduce or abolish the vasopressor effect of nicotine, ephedrine and veritol (β -p-oxyphenyl-isopropylmethylamine), but never induce a vasodilator response.

The hypertensive action of acetylcholine, in the atropinized dog, persists after injection of SY-28.

The vasopressor action of levo-arterenol[†] is notably depressed, at a time when neuro-vasopressor effects of sympathetic origin are nearly normal and epinephrine reversed by SY-28.

B./ β -(2-biphenyloxyethyl)-n-butyl- β -chloroethylamine HCl (SY-30).

According to Loew's and our observations,

[†] Kindly provided by M. L. Tainter (*Science*, 1948, **107**, 39).

the pharmacological actions of SY-30 and SY-28 are similar, the SY-30 being less active.

Intravenous injection of 5 to 10 mg/kg has no immediate effect on blood pressure and heart rate, whereas intra-arterial injection produces a marked local vasodilatation, often preceded by a slight vasoconstriction. Later on the general blood pressure decreases progressively.

Vasopressor effects of carotid sinus origin are rapidly depressed but not reversed. Similarly, the neuro-vasopressor responses due to stimulation of the splanchnic nerve or other sympathetic nerves, may be diminished, but are never reversed after injection of SY-30.

While epinephrine hypertension is reversed and its tachycardic action completely abolished, the vasopressor activity of ephedrine, nicotine, dl-arterenol, acetylcholine (after atropinization) is weakened or blocked.

Finally, SY-30 paralyzes the cario-accelerator nerves.

Summary. The experiments showed that α -naphthylmethylethyl- β -bromoethylamine (SY-28) and β -(2-biphenyloxyethyl)-n-butyl- β -chloroethylamine (SY-30) are very active adrenolytic agents, with a weak sympathicolytic effect. The present and previous experimental observations once more demonstrate a marked dissociation between the vascular action of epinephrine and the neuro-vascular sympathetic transmission of excitations.

16283 P

Effect of Muscle Work Upon Level of Blood Glucose in the Eviscerated Rat.

DWIGHT J. INGLE.

From the Research Laboratories, The Upjohn Company, Kalamazoo, Mich.

These experiments show that faradic stimulation of the gastrocnemius muscle accelerates the rate of fall of blood glucose in eviscerated and eviscerated-nephrectomized rats.

Methods. Male rats of the Sprague-Dawley strain were fed Friskies Dog Cubes. At a

weight of 185 to 205 g, the inferior vena cava was ligated between the liver and kidneys to cause the development of a collateral circulation. Asepsis was preserved. When the animals reached 265 to 310 g they were anesthetized (cyclopal sodium) and eviscer-