

A NOTE ON TRIPELENNAMINE HYDROCHLORIDE AND LOCOMOTOR ACTIVITY

BY E. M. BOYD AND M. A. BOYD

*From the Department of Pharmacology, Queen's University, Kingston, Ontario,
Canada*

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IN 1954, Baird and Boyd reported¹ that tripeleennamine hydrochloride had a statistically insignificant effect upon locomotor activity of albino rats measured in Wahmann drums. They found some indication, from the available data, that "locomotor activity of the more active rats might be increased by the smaller doses, and decreased by the larger doses, of tripeleennamine hydrochloride", and also that "the locomotor activity of the less active rats might be augmented by the higher doses, and not affected by the lower doses, of tripeleennamine hydrochloride". Affirmation of these possibilities could provide evidence that both the sedative and excitant side-reactions of this antihistamine agent are measurable in animals and this work was directed toward that purpose.

One hundred individually identifiable adult male albino rats were acclimatized to the Wahmann drum by the technique previously described¹. Each rat was starved for 72 hours, placed in the drum for 24 hours, and this repeated at the end of 1 and 2 weeks. The 50 rats which rotated the drum the greatest number of times were separated into the "more active" group and the remaining 50 into the "less active" group. The 50-rat groups were each divided into subgroups of 5 rats. Each of the 5 rats received in rotation at intervals of 1 week, until crossover was complete, subcutaneous injections of tripeleennamine hydrochloride in doses of 0, 0.5, 1.0, 2.0, and 5.0 mg. per kg. body weight. These relatively small doses are approximately equivalent to those used therapeutically. The antihistamine agent was dissolved in sterile 0.85 per cent sodium chloride solution and given in all cases in a volume of 1 ml. per kg. weight. The drug was administered after each acclimatized and tested rat had been in the Wahmann drum for 3 hours. Hourly readings on the Veeder counter were recorded for 4 hours after drug administration. From the hourly number of rotations of the drum after the rat had received tripeleennamine was subtracted the number of rotations in the corresponding hour after the rat had received a saline injection. These differences were averaged and subjected to a *t* test of the probability of the mean difference (\bar{X}_D (drug-control)) being zero². The results are summarized in Table I.

At no time were effects obvious to casual observation of the animals. Measurable effects of tripeleennamine were confined largely to the second hour after administration. Effects significant at $P \leq 0.05$ were: (a) *increased* locomotor activity of the more active rats after receiving a dose of 0.5 mg. per kg. body weight of tripeleennamine hydrochloride; (b) *decreased* locomotor activity of the more active animals after a dose of

TRIPLENNAMINE HYDROCHLORIDE

TABLE I

THE INFLUENCE OF TRIPLENNAMINE HYDROCHLORIDE UPON LOCOMOTOR ACTIVITY OF ALBINO RATS

Dose (mg. per kg. subcutaneously)	Change in locomotor activity* per cent hours after drug			
	1	2	3	4
More active animals, N = 49				
0.5	+ 20 (0.2)	+ 55 (0.02)	- 4 (0.8)	+ 11 (0.6)
1.0	- 16 (0.4)	+ 23 (0.3)	- 8 (0.7)	+ 6 (0.8)
2.0	- 14 (0.5)	+ 27 (0.2)	+ 13 (0.5)	+ 5 (0.8)
5.0	- 56 (<0.001)	- 8 (0.7)	+ 1 (0.9)	+ 8 (0.8)
Less active animals, N = 50				
0.5	+ 9 (0.8)	+ 96 (0.2)	- 40 (0.2)	- 10 (0.7)
1.0	+ 24 (0.5)	+ 54 (0.3)	- 11 (0.7)	- 10 (0.7)
2.0	+ 35 (0.3)	+ 154 (0.02)	+ 42 (0.2)	+ 7 (0.8)
5.0	- 24 (0.3)	+ 112 (0.05)	+ 18 (0.6)	+ 76 (0.1)

* $(\bar{X}_D - \bar{X}_C) / \bar{X}_C \times 100$ (P difference equals zero).

5.0 mg.; (c) increased locomotor activity of the less active rats following doses of 2.0 and 5.0 mg.

SUMMARY

Measurable sedation and measurable excitation of locomotor activity of albino rats by tripelennamine hydrochloride were demonstrated at selected doses in selected groups of animals by a rotation cross-over assay.

REFERENCES

1. Baird and Boyd, *J. Pharm. Pharmacol.*, 1954, 6, 398.
2. Croxton, *Elementary Statistics with Applications in Medicine*, New York, Prentice-Hall, Inc., 1953.