Pharmacology Biochemistry & Behavior, Vol. 25, p. 231, 1986. © Ankho International Inc. Printed in the U.S.A. 0091-3057/86 $3.00 + .00

INTRODUCTION

Locomotor Behavior: Neuropharmacological Substrates of Motor Activation

LOCOMOTOR activity is one of the most widely used measures for analysing the general behavioral state of an animal. Neuroscientists, pharmacologists and toxicologists often measure an animal's activity in order to provide important insights into the mechanisms of drug actions and the function of the central nervous system. Traditionally, activity has been regarded as a "crude" measure, requiring little sophistication by the user. However, over the past few years the sophistication and expense required to have a fully automated multivariate animal activity monitoring system in the laboratory has rivalled many of the complicated biochemical or anatomical techniques. To this end, a Satellite Symposium at the Society for Neuroscience was organized in 1984 to explore the new approaches available for locomotor analysis [1]. Due to the success of this meeting, the present symposium was organized to highlight the variety of ways in which motor activity techniques have been used in ongoing research within the neuroscience community. Thus, the Satellite Symposium entitled "Locomotor Behavior: Neuropharmacological Substrates of Motor Activation" was held on October 20, 1985, at the Society for Neuroscience Annual Meeting in Dallas, TX.

The nine articles which follow in this issue are based on the six main Symposia and four short open-discussion presentations. After a short chairman's introduction to the Symposium, Neal R. Swerdlow of the Scripps Clinic and Research Foundation first presented a review of the role of various telencephalic brain areas in the motor-activating properties of psychostimulants. John L. Waddington of the Royal College of Surgeons in Ireland next discussed the role of D-1 and D-2 dopamine receptors in motor activity. Peggy J. L. D. Schreur of the Upjohn Company demonstrated the use of two automated locomotor tests for identifying dopamine autoreceptor agonists. Next, Robert G. Robinson of the Johns Hopkins University School of Medicine reviewed their animal model of post-stroke depression and the importance of locomotor behavior in understanding the model's underlying mechanisms. Klaus-Peter Ossenkopp of the University of Western Ontario presented an investigation of the role of the area postrema in the motor activity stimulating effects of the anticholinergic, scopolamine. Finally, the last main speaker, Mark A. Geyer of the University of California, San Diego gave a presentation on a "homemade" computerized activity monitoring system that enables the simultaneous evaluation of discrete aspects of locomotor behavior, as well as the patterning of movement.

Towards the end of the meeting four presenters gave short open-discussions. John C. Crabbe of the Oregon Health Science University discussed results he has obtained on the genetic differences in locomotor activation in mice. Ron Mervis of the Ohio State University described the importance of locomotor activity in interpreting his research on the learning changes following ganglioside administration (not published). Subsequently, Barbara E. Lerer of DuPont Pharmaceuticals demonstrated alterations on specific aspects of the rat's circadian locomotor activity following lesions of the magnocellular basal forebrain. Finally, Paul R. Sanberg of the Ohio University discussed the role of fetal brain tissue transplants in ameliorating the locomotor hyperactivity in an animal model of Huntington's disease. This Symposium was organized and chaired by Paul R. Sanberg and sponsored by Omnitech Electronics, Inc. of Columbus, OH.

REFERENCE

1. Sanberg, P. R. (Editor). Locomotor behavior: New approaches in animal research. Proceedings of a Satellite Symposium to the 14th Annual Meeting of the Society for Neuroscience. *Neurobehav Toxicol Teratol* 7: 67–100, 1985.