

REFERENCES

- IWAMA, K. & JASPER, H. H. (1957). *J. Physiol., Lond.*, **138**, 365-380.
KRNEVIC, K. & PHILLIS, J. W. (1963). *Ibid.*, **165**, 274-304.
RECH, R. H. & DOMINO, E. F. (1960). *J. Pharmac. exp. Ther.*, **130**, 59-67.
SAAD, S. F. (1970). *J. Pharm. Pharmac.*, **22**, 308.
TZU YU LI & CHANG HUA WU (1964). *Sheng Li Hsueh Pao*, **27**, 1-4.

Effects of the marihuana-homologue, pyrahexyl, on open field behaviour in the rat

Four concentrations of pyrahexyl (2.5, 5.0, 10.0 and 15.0 mg/kg) dissolved in olive oil, were administered intraperitoneally to four groups of Long Evans hooded rats 2-3 months old of either sex. There were two males and two females in each group. A fifth control group received only olive oil. The rats were observed 2½ h after injection for 5 min in a 30 × 18½ × 18 inch open field which had been marked off in squares. Four measures of behaviour were recorded: activity as defined by the number of lines a rat crossed with both hind feet; rearing, which was scored whenever the animal stood on its hind legs for any purpose other than grooming; grooming, defined as any response involving the smoothing of the fur or bring the forefeet to the face for the purpose of "washing"; and defaecation.

The evidence was examined by a one-way analysis of variance (Hays, 1965). A dose-dependent effect of pyrahexyl on activity ($F = 7.01$, $df = 4.15$, $P < 0.01$) was found. At 10 mg/kg there was no noticeable difference in activity between the treated and untreated rats. However, at 2.5 and 5 mg/kg of pyrahexyl, activity was increased above the control values whereas at 15 mg/kg, activity was depressed.

Rearing was also affected significantly by pyrahexyl ($F = 26.79$, $df = 4, 15$, $P < 0.01$), a progressive inhibitory effect being seen as the dosage increased, 10-15 mg/kg of the drug inhibiting rearing by 50%.

Neither grooming nor defaecation was significantly affected.

The relation between dosage level and activity is complex; the change in activity response with dose demonstrates how different conclusions about the effects of pyrahexyl could be reached according to dosage. But as rearing was progressively suppressed as drug dosage was increased, various behavioural responses appear to be differentially affected by the drug.

Walters & Abel (1970) found that while pyrahexyl did not affect jumping behaviour itself, it did reduce the latency in the jumping response of gerbils to a stimulus which signalled the onset of shock. But, with rats, Abel & Schiff (1969) found pyrahexyl increased the amount of time spent in observing other animals. It appears then, that the affects of pyrahexyl are not only dose-dependent but are also response specific.

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REFERENCES

- ABEL, E. L. & SCHIFF, B. B. (1969). *Psychon. Sci.*, **16**, 38.
HAYS, W. L. (1965). *Statistics For Psychologists*. New York: Holt, Rinehart & Winston.
WALTERS, G. C. & ABEL, E. L. (1970). *J. Pharm. Pharmac.*, **22**, 311-312.