

7) Differential effects of medial and basolateral amygdaloid lesions on three models of experimentally-induced aggression in rats. Shigenobu Shibata, Tsuneyuki Yamamoto and Showa Ueki. Department of Pharmacology, Faculty of Pharmaceutical Sciences, Kyushu University, Fukuoka 812, Japan.

In an attempt to clarify whether each nuclei of the amygdaloid complex plays a differential role in aggressive behavior including muricide, 3 models of aggression induced in rats by olfactory bulbectomy (O.B. rats), midbrain raphe lesions (raphe rats) and long-term isolation (Iso. rats) were used. Rats, which exhibited muricide either 10 days after the brain lesions or 30 days after isolation, were subjected to bilateral lesions of either the medial (AME) or basolateral amygdaloid nuclei (ABL). Both muricide and other hyperemotionality in O.B. and Iso. rats were significantly reduced at 2 to 4 days after AME lesions, but were restored to the control level after 7 days or so. On the other hand, ABL lesions resulted in no significant change in aggressive behavior of O.B. and Iso. rats. Muricide and hyperemotionality of raphe rats were not inhibited by either AME or ABL lesions. These results suggest that AME plays an important role in aggression of O.B. and Iso. rats, but aggression in raphe rats is independent of amygdaloid activity.

8) Effects of psychotropic drugs on labor division between rats. Yasufumi Kataoka, Kazuhiko Shibata, Michihiro Fujiwara and Showa Ueki. Department of Pharmacology, Faculty of Pharmaceutical Sciences, Kyushu University, Fukuoka 812, Japan.

When previously trained male Wistar rats on continuous reinforcement schedule were paired in a modified Skinner box, one of the rats performed most of the lever pressing and obtained few rewards (worker rat : W), while the partner received the reward without working (parasite rat : P). This W-P relationship is described as labor division. We examined the change of this social pattern when various drugs were administered to W. When pentobarbital (PTB) 30 mg/kg i.p., chlorpromazine (CPZ) 10 mg/kg i.p. and methamphetamine (MAPT) 5 mg/kg i.p. were injected into W, lever pressing of W decreased to almost 0, conversely that of P markedly increased and P obtained the reward. After PTB 10 mg/kg i.p., CPZ 5 mg/kg i.p., diazepam (DZP) 10-20 mg/kg p.o. and LSD-25 0.1 mg/kg i.p., lever pressing of W was markedly reduced without changes in that of P and consequently both rats obtained very few rewards. When Δ^9 -THC 5 mg/kg i.p. was given, W-P relationship was reversed, i.e. P pressed the lever and W obtained the reward. The effects of LSD-25 0.5 mg/kg i.p. and mescaline 20 mg/kg i.p. differed from those of Δ^9 -THC, and were similar to those of either MAPT or DZP. These results suggest that social behavior under labor division provides a new method for detecting subtle behavioral effects of psychotropic drugs.