

DISCUSSION

G. LEWIS (*London, England*):

In some experiments with Dr. Feldberg we found that pure bradykinin 125 μg had little or no effect when injected into the ventricles of cats.

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The experiments with intraventricular administration of bradykinin in cats were repeated with synthetic bradykinin (Sandoz). The compound was given to us due to the kindness of Professor Rocha e Silva, who was present at one part of these experiments. To six cats 20 μg of bradykinin in saline were injected, to one 15 μg and to another 5 μg . In 5 of 6 animals, who were given the highest dose, symptoms appeared in two phases. Instantly after the intraventricular injection, the cats miaouwed and within the first minute retching was seen. Always there was an increase in muscle tone, the animals remained in atypical positions with catatonic features. Their movements were atactic. The most striking symptom was compulsive circling. The animals circled first in large, later in smaller circles and did not evade obstacles. This symptom was present in 2 cats. Most of the animals repeatedly touched with their forelimbs the mouth. They scratched themselves intensively. Several times a tremor, beginning at the ears and then distributed over whole head was seen. In one case clonic convulsions occurred. From vegetative symptoms in the first place there were hyperventilation and deep breathing. Regularly increased salivation, often micturition was observed. In some animals there was miosis with relaxation of the nictitating membrane. Occasionally we observed a transient mydriasis. This excitation phase lasted about 15 min. Then the second, depressive phase followed. There was a motoric sedation, the animals rested in typical positions. Some vegetative symptoms, especially salivation and hyperventilation in some animals persisted even in this phase. After several hours the behavior of the cats gradually became normal. After lower doses of bradykinin the behavioral changes were less marked, especially the excitation phase was less pronounced, or completely absent. In all animals the position of the cannula was checked by autopsy. In the one case where after 20 μg of bradykinin there was no evident change of behavior, the cannula was not in the right place and the injected bradykinin solution accumulated in an artificial cavity in the white matter of the hemisphere over the ventricle.