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Symposium on substance P

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SIMPOZIJUM
O
SUPSTANCIJI P

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SARAJEVO
1961

B. PERNOW AND U. S. v. EULER

EFFECT OF INTRAVENTRICULAR ADMINISTRATION OF SUBSTANCE P IN THE UNANAESTHETIZED CAT (FILM)

Technique. — A cannula was implanted in the lateral ventricle through a parasagittal incision in the parietal bone according to Feldberg and Sherwood (1954). The location of the needle tip was checked by the passage of cerebrospinal fluid through the needle and by injection of a dye, the distribution of which was studied post mortem. The operation was performed one month before the experiments shown on the film.

Preparation. — The SP preparation used was prepared from cow's intestine and purified according to Pernow (1953). The activity was 300 units per mg. For control purposes inactivated preparations were obtained by incubation with chymotrypsin.

Results. — After administration of 30 units SP in 0.1 cc Ringer the dominating effect was a general inhibition of spontaneity. The cat lay down in a squatting position with the eyes half shut and showed almost no reactions when interfered with. This effect lasted about 1 hour, whereafter the normal behaviour of the cat was successively normalized. Besides these symptoms of general sedation the injection caused hyperpnea, licking and swallowing movements.

The experiment was repeated with 50 units SP in 0.15 cc Ringer. Again the immediate and dominating reaction was a general inhibition of spontaneous activity. About 30 min. the cat remained quite immobile in a state of stupor and was not affected by changes in its position. Except for occasional vigorous licking movements no other symptoms were noticed. At this occasion the stupor was followed by a short period of aggressivity with bad temper before the cat returned to her normal state.

No effects were observed after injection of Ringer's solution or inactivated SP.

Conclusion. — The most regular effect, which was elicited by intraventricularly administered SP was a general sedation. Similar effects were at the same time as this film was taken observed by Zetler (1956) after subcutaneous administration of SP in the rat. These observations have later been confirmed by Stern and Dobrić (1957).

Summary

Intraventricular administration of substance P caused an inhibition of spontaneous activity in the cat.

EFEKAT INTRAVENTRIKULARNE APLIKACIJE SP KOD MAČKE PRI PUNOJ SVIJESTI (FILM)

Intraventrikularna aplikacija SP prouzrokovala je kod mačke inhibiciju spontane aktivnosti.

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