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は1, 18hrで増加し, c GMPは2 hrまでは著明に減じ, 18hrでも回復しない。従ってc AMP / c GMPは2~18hrで増加する。寒冷ストレス負荷による脳内及び副腎髄質のTH活性の変動はc AMPの影響下にあると考えられる。TH活性の殆んど認められない副腎皮質のc AMP, c GMPの前述の変化については今後ステロイド分泌機構との関連を追求したい。

### **Studies on Monoamine Oxidase (IV) : Monoamine Oxidase Activity in Rat Brain and Estrous Cycle**

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〔第51回日本薬理学会総会 仙台 (1978年3月) で発表〕

The activity of monoamine oxidase (MAO) during different phases of the estrous cycle was studied using seven brain regions from S.D. strain rats. The rats were maintained on a 12 hr light-dark schedule. MAO activity of homogenate of each tissue was assayed by isotope dilution method using  $^{14}\text{C}$ -tyramine as substrate. In most regions of the brain, MAO activity was highest in proestrus (P), subsequently fell in estrus I (EI), rose again in estrus II (EII), and turned to a lower level during diestrus. Especially in the hypothalamus, MAO activity in P showed highly a significant difference ( $p < 0.01$ ) from that in diestrus. MAO activity in the hypothalamus of rats 2 weeks after ovariectomy was lower than that in P phase of nonoperated rats. When estradiol (0.2mg/kg/day for 3 days) was given s.c. to ovariectomized rats, MAO activity in the hypothalamus was depressed significantly, whereas progesterone (4mg/kg/day for 3 days) showed tendency toward restration of the activity depressed to the level in P. Estradiol together with progesterone also inhibited the activity to the same extent as the former alone. Plasma levels of estrogens were considered to be highest in P. The peak of the activity appeared almost simultaneously with the so-called critical period. Thus, no direct relationship between the fluctuation of MAO activity in the hypothalamus and different levels of endogenous steroids is recognized.

### **Fluctuation in the Levels of Cyclic AMP and Cyclic GMP in Rat Brain during Estrous Cycle**

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〔第51回日本薬理学会総会 仙台 (1978年3月) で発表〕

In connection with the effects of sexual steroids, fluctuations in the levels of the