

Title	Effects of sex hormones on brain monoamine oxidase activity
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Author	木村, 都(Kimura, Miyako) 加藤, 礼子(Kato, Reiko) 中村, 悦郎(Nakamura, Etsuro)
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と ACC の約 1/4 の RCC が得られる。さらに Caffeine を投与して急冷すると RCC は 2 倍以上に増強され、これに 5 V の交流刺激を加えると ACC は得られないが RCC の増強の程度がさらに増加した。

また細胞内 Ca の efflux を促進するといわれる Papaverine を作用させると ACC の減少は著しく、30 分後には完全に得られなくなった。その間 10 分毎に RCC を観察しても ACC と同様の経過で減少し、正常 Krebs 液に戻せば同じ経過で回復した。ところが Papaverine 作用下で交流刺激を与えずに RCC のみを観察すると、その収縮高の減少はほとんど認められなかった。

此等の実験結果から、交流刺激が何等かの形で筋膜の Ca 遊離機構を修飾し、内部の収縮系に影響をおよぼすものと推察された。

Effects of Sex Hormones on Brain Monoamine Oxidase Activity

MIYHKO KIMURA, REIKO KATO and ETSURO NAKAMURA

Reported at 47th General Meeting of Japanese
Pharmacological Society, 1974

The effects of sex hormones on the level of MAO activity of brain were investigated using the S-D strain rats. The mitochondrial fraction was prepared from homogenized whole cerebrum tissues and the MAO activity toward tyramine was measured by oxygen electrode method.

The enzyme activity increased progressively until 4 weeks after birth and there was no significant difference in activity between male and female groups. Thereafter, the activity level increased slightly in male animals, but the level remained fairly constant or rather decreased in female animals.

The activity was inhibited by administration of 17β -estradiol and was not affected by administration of testosterone in adult male rats. Castration resulted in inhibition of the activity in male and increasing of the activity in female rats. The inhibition of MAO activity by castration in male rats was followed by complete recovery with the administration of testosterone. While the increasing of the activity by oophorectomy was not affected by the administration of testosterone or 17β -estradiol.

Also MAO activity of brain mitochondria was inhibited in vitro by 17β -estradiol in male rats.