

P-126 - ANXIETY REDUCING EFFECT OF OXYTOCIN ON BASOLATERAL AMYGDALA BY USING ELECTROPHYSIOLOGICAL METHOD

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Objective: The amygdala which is part of limbic system is activated in case of fear and anxiety. This study evaluated the effects of oxytocin on the basolateral amygdala (BLA) in spontaneous EEG.

Materials and methods: In this study 7 Sprague-Dawley adult male rats were used. Under anesthesia with the help of drill by opening a small hole, then by taking bregma as reference with the stereotaxic method (Anteroposterior: -2.8 mm, Lateral: +4.8 mm, Ventrodorsal: -8.5 mm), bipolar EEG electrode was placed to the BLA. Electrodes were fixed by using a dental restorations material.

Electrodes placed 3 days later, the animals are awake in their cages, spontaneous EEG recordings taken from the amygdala. Then, rats ($n = 7$) 0.9% isotonic NaCl intraperitoneally applied, the EEG was recorded amygdala their cages.

1 day later to the same rats ($n=7$) oxytocin 10 IU/Kg were applied IP, 5 minutes later of injection of oxytocin EEG records were taken in their own cage.

System records were taken 20 minutes by Biopac MP30 amplifier system in the range of 1-60 Hz band, with 10.000 amplification. We affirmed electrode location histologically following euthanasia.

Results: There is significant ($p < 0.05$) diminution in delta frequency (64.4 ± 10.9) of rats which is administered isotonic than spontan EEG records (79.5 ± 12.8).

There is significant ($p < 0.05$) increase in delta frequency (76.8 ± 12.5) of rats which is administered oxytocin than isotonic injected rats (64.4 ± 10.9).

Conclusion: Anxiety caused by injection of isotonic, is augmented EEG frequency if we compare with resting EEG records. Oxytocin, diminishes the EEG frequency of rats which has injection anxiety. This results show electrophysiologically that oxytocin is a powerful anxiolytic.