Effect of SB-334867 orexin-1 receptor antagonist microinjected into the nucleus accumbens on morphine sensitization by conditioned place preference paradigm in rat

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It has been reported that orexins (hypocretin) are important neuropeptides in reward. Previous studies have shown that orexin A in the nucleus accumbens (NAc) is necessary for development of morphine place preference. The present study extended the role of orexin receptors within the NAc in opioid sensitization. In this study, the effects of bilateral administratin of SB-334867, orexin-1 (OX1) receptor antagonist, on the acquisition of morphine sensitization by morphine-induced conditioned place preference (CPP) in rats were investigated. Adult male albino Wistar rats were used in this experiment. Rat were bilaterally implanted by two cannulae in the NAc, and received intra-NAc infusions of OX1 receptors antagonist SB-334867 (0.1 ,1 and 10 nmol/side) 10 min before injection of morphine during sensitization period. In this period, animal received repeated administration of morphine once daily for three days (sensitization period) followed by 5 days free of the drug. Then, CPP paradigm has been performed for evaluation of morphine rewarding properties. The results showed that bilateral administration of SB-334867 into the NAc reduced acquisition of morphine sensitization. The Data indicated that OX1 receptors within NAc are involved in acquisition of morphine sensitization.

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Keywords *: Orexin, Nucleus accumbens, Sensitization, Conditioned place preference,Rat

ANT task performance with a consideration on sex hormones,LH and FSH changes before puberty and after menopause

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Introduction. Attention is described as a modulatory system which controls the data processing through three brain networks: alerting, orienting, executive network. We used the attention network test (ANT) which is a modified flanker task that allows examination the relative functioning of alerting, orienting and executive control networks.

Materials and Methods. Two groups of participants were tested: the first group consists of seventeen immature girls (9-11 years), the second group consists of seventeen postmenopausal women (45-55 years). At the beginning of session 1, the participants were given the instruction for ANT, then the performance of attentional networks were assessed. Immediately after performing the ANT, a blood sample was collected. Serum levels of estradiol,

progestrone, LH (luteinizing hormone) and FSH (follicle-stimulating hormone) were analyzed by the ELISA (the .enzyme-linked immune sorbent assay) technique

Results. Difference score in alerting network was significantly higher in the immature children than in the postmenopausal women ($p<0.01$). There was no significant difference in the performance of orienting network. Difference score in executive network was significantly higher in the immature children than in the postmenopausal women ($p<0.001$). Estradiol levels were significantly less in the serum of immature children than in the postmenopausal women ($p<0.001$). Progestrone levels were significantly higher in the serum of postmenopausal women than in the immature children ($p<0.001$). LH levels were significantly higher in the serum of the postmenopausal women than in the immature children ($p<0.001$). FSH levels were significantly higher in the serum of postmenopausal women than in the immature children ($p<0.001$).

Conclusion. These results suggest that low levels of estrogen and progestrone can affect the performance of alerting and executive networks in immature children. More investigation is suggested to reveals the underlying mechanisms.

Keywords: Alerting; Orienting; Executive control; Estrogen; Progestrone

The effect of Pharmacotherapy combined with speech and language therapy on functional recovery from Aphasia: A case Report

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Introduction. Aphasia is a language disorder due to impairment of brain speech and language areas. It can cause problems with language functions such as speaking, reading and writing. Communicative rehabilitation of aphasics can relatively compensate these problems. In addition, pharmacotherapy associated with rehabilitation strategies is useful. In this study we will investigate effects of language therapy in combination with use of common drugs such as piracetam and Citicoline on a global aphasic person.

Materials and Methods. The case is an adult male with a global aphasia caused by a cerebral trombo-embolic infarction. He entered to the study 7 month post-stroke. At first, to determine presence of aphasia and patient's speech and language skill level the MAST was used. Additionally his naming ability assessed by 30 pictures. He treated primarily by Piracetam for 3 weeks and then after one week interval treated by Citicoline for 3 weeks. Speech and language therapy was performed, too. The MAST and naming test was performed after both 3 weeks. Totally, the most observable progress of patient was in thing recognition subtest of perception section that it was more after Citicoline usage. The most observable progress in expression section was in repetition subtest that it was more after Citicoline usage, too. There were no progress in command following subtest of perception section and naming, writing, and verbal fluency subtests of expression after usage of both drugs.

Conclusion. Findings show that Citicoline is more useful drug for improving speech and language skillsthan