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Background and Aim: embryonic defects are made by many factors, a wide range of different chemicals are known to be teratogenic and they can affect special tissues during critical periods in development. Zolpidem is a new member of sedative drugs, because of change in sleep behavior in pregnancy, this drug is used now widely by pregnant women. The purpose of this study is to investigate the teratogenic effects of zolpidem on development of telencephalon in wistar rat embryo

Methods: Female pregnant rats were randomly divided into 4 groups: control with intra peritoneal (i.p) saline injection; and treated groups with 5, 10, 20 mg/kg, i.p. injection of zolpidem. The daily treatments were started from zero day of pregnancy. On 18th day of pregnancy, fetuses were excluded and processed for histological preparation and then the neural tissue of brain hemispheres and lateral ventricles were assessed by image J software

Results: The average body weight of fetuses as well as size of heads in groups treated with 10, 20 mg/kg, i.p. injection of zolpidem were significantly reduced in comparison with control ($p < 0.5$ & $p < 0.01$). The average body size of fetuses in group treated with 20 mg/kg, i.p. injection of zolpidem were significantly reduced in comparison with control ($p < 0.01$). Thickness of neural tissue in all three groups was decreased in comparison with control but this decrease was not significant

Conclusion: results show that the zolpidem could not be able to produce significant effects in the thickness of neural tissue, although a non significant decrease was observed, this effect may be arisen from the depolarization of neurons during development in the central nervous system

Keywords: zolpidem, nervous system development, rat embryo, teratogen & telencephalon

Measurement of difference in acute pain threshold between dominant and recessive hands of children

Subject: Pain

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Background and Aim: It is vital to determine the amount of each person's resistance to pain, particularly for the children who cannot state their pain's amount and intensity. On the other hand it could help to adapt the amount of consumed narcotic drugs according to their amount of pain.

Methods: Thermometer – Cold water – Stopwatch – 6-7 year old children The method that is taken advantage of in this research is the 4 Celsius cold water test which was first introduced by (Harris and Rolman 1985).

Results: Statistical analysis has shown that the acute pain threshold in the dominant hand of the children is more than the other hand ($p < 0.001$). Actually, the analgesia happens more for the dominant hand rather than the recessive one.

Conclusion: The fact that a person uses his dominant hand more in daily jobs could be effective in development of an accommodation in the thermal pain receptors and as a result increase the pain threshold (Muto, S. et al 2006) and make a kind of analgesia against coldness.

Keywords: Acute pain – Cold water test – Acute pain threshold

Biochemical markers and genetic research of ADHD

Subject: Neurodegeneration, and Movement Disorders

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Background and Aim: ADHD (attention hyperactivity disorder) is a polygenetic disorder with various candidate genes. At this time, more than thirty dopaminergic, noradrenergic, serotonergic and GABA-ergic genes are known.

Methods: The research of only some candidate genes (DRD4, DAT, DRD5, DBH, 5HTT, HTR1B and SNAP25) brought relatively consistent results confirming the heredity of ADHD syndromes. The results of research of other genes (DRD2, DRD3, MAO, ADR2A, GABA A3, GABA B3) are not clear yet.

Results: This paper summarizes the most important genetic data in correlations with biochemical periphery parameters (especially for DBH, HVA, MHPG, serotonin). Hypothetically, certain subgroups of ADHD may be identified by correlation of biochemical characteristics and some candidate genes. The paper discusses some implications for future research. Review.

Conclusion: The results of research of other genes (DRD2, MAO, ADR2A, GABA A3, GABA B3) are still not clear. Understanding these genes can help comprehending polygenetic aetiology of some subgroups of ADHD and

Keywords: ADHD; candidate genes; biochemistry; correlations; comorbidity; research

The Investigation of relationship between negative appraisal and distress tolerance in substance dependent patients