تنایی کوتاب و بلند مدت سرب بر میزان کاتکول آمینه‌های نواحی مختلف مغز موش‌های صحرایی بالغ

در این مقاله میزان هر یک از آمینه‌های کاتکول در نواحی مختلف مغز موش-های صحرایی بالغ پس از آزمایش خوردن سرب میزان سرب قندیند. نتایج نشان داد که میزان هر یک از آمینه‌های کاتکول در نواحی مختلف مغز موش-های صحرایی بالغ پس از آزمایش خوردن سرب میزان سرب قندیند.

كلیدواژگان: کاتکول سرب، مغز نواحی آمین، کاتکول سرب، مغز نواحی آمین، کاتکول سرب، مغز نواحی آمین، کاتکول سرب، مغز نواحی آمین، کاتکول سرب، مغز نواحی آمین، کاتکول سرب، مغز نواحی آمین، کاتکول سرب، مغز نواحی آمین.
Catecholamine contents of different regions in the adult rat brain are altered following short and long-term exposures to Pb$^{+2}$

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Abstract:

**Background:** Catecholamine is a group of neurotransmitters that is believed to be responsible for the normal function of animal brain. Physiological and behavioral changes of the human body have been reported due to the damage of the brain function following Lead exposure. Due to the assumption of Lead disposal in brain tissue with two years for its half-life, which results in alteration of brain function, the aim of this study was to investigate the ability of Lead to change the brain catecholamines during short and long-term studies.

**Materials and Methods:** Rats were exposed daily to varying amounts of Lead and the catecholamine contents of cerebellum, mid-brain and brain cortex were determined.

**Results:** Acute peritoneal administration of single dose of Lead as Lead acetate (260 µmol/kg) after 2h reduced ($P<0.05$) catecholamine levels of cerebellum, mid-brain and cortex part by 34.9%, 35.44% and 23.8%, respectively. The extension of experiment time to 5h, the significant ($P<0.05$) reductions were seen in catecholamine levels of mentioned regions of brain by 32.35%, 12.35% and 19.3%, respectively. Daily intraperitoneal administration of 10 µmol/kg Lead for 30 and 60 days reduced catecholamines levels of cerebellum (22.22% and 30.44%), mid-brain (12.48% and 26.27%) and brain cortex (11.58% and 26.7%), respectively.

**Conclusion:** It can be concluded that brain dysfunction in Lead intoxicated rat occurred through the reduction in the catecholamine levels of different parts of brain. Therefore, Lead might be considered as a probable factor in causing neurological disease in Lead-exposed man.

**Keywords:** Lead, Catecholamine, Brain region