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The study of isoindole derivaties on PTZ and MES-induced clonic and tonic seizure in male mice.

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Background and Aims: Longterm Treatment by Antiepileptic drugs can cause various side effects and drug toxicity. Recently researchers are working on new Isoindole derivatives in order to find more efficient drugs , with a better safty profile, the mechanism of action of Isoindole derivatives is similar to phenytoin. In the present study , the anticonvulsant activity of 14 analogs of Isoindole were evaluated.
Methods: In order to study the effect of 14 analogs of Isoindole , different doses (20,40,80 mg/kg) were injected Intraperitoneally to male mice. Intravenous pentylenetetrazole and Maximal electroshock were used in order to induce convulsion after Intraperitoneal Adminestration.
Results: The Anticonvulsant properties of studied analogs ore dosedependent and the maximum effect was observed at 60 minutes after injection. All 14 campounds increased significantly PTZ- induced clonic seizure threshold in mice. And 10 analogs Showed protection against tonic seizure induced by MES.
Conclusions: It seems that all 14 analogs had anticonvulsant effect in PTZ- induced clonic seizure. And 10 analogs exhibited antiseizure effect in MES- induced tonic seizure.

Keywords: Convulsion; Isoindole derivatives; Maximal electroshock; Phenytoin