

## Accepted Manuscript

Title: Does status epilepticus modify the effect of ifenprodil on cortical epileptic afterdischarges in immature rats?

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PII: S1734-1140(17)30289-X  
DOI: <http://dx.doi.org/10.1016/j.pharep.2017.08.012>  
Reference: PHAREP 784



To appear in:

Received date: 23-4-2017  
Revised date: 26-7-2017  
Accepted date: 23-8-2017

Please cite this article as: Kenul Abbasova, Hana Kubová, Pavel Mareš, Does status epilepticus modify the effect of ifenprodil on cortical epileptic afterdischarges in immature rats? (2010), <http://dx.doi.org/10.1016/j.pharep.2017.08.012>

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Does status epilepticus modify the effect of ifenprodil on cortical epileptic afterdischarges in immature rats?

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## ABSTRACT

**Background:** Ifenprodil as a specific antagonist of NMDA receptors containing a dominant NR2B subunit exhibits age-dependent anticonvulsant action. Possible changes of this action due to status epilepticus elicited at early stage of development were studied using cortical epileptic afterdischarges (ADs) as a model.

**Methods:** Lithium-pilocarpine SE was induced at postnatal day 12 and effects of ifenprodil were studied 3, 6, 9, and 13 days after SE in rat pups with implanted epidural electrodes. Controls (LiPAR) received saline instead of pilocarpine. ADs were elicited by low frequency stimulation of sensorimotor cortex. Intensity of stimulation current increased in 18 steps from 0.2 to 15 mA. Ifenprodil (20mg/kg i.p.) was administered intraperitoneally after the stimulation with 3.5-mA current.

Threshold for four different phenomena as well as duration of ADs were evaluated.

**Results:** The threshold for the transition into the limbic type of ADs was higher in 15-day-old SE rats than in LiPAR controls. Opposite difference was found in 18-day-old

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