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Poster presentation

Effect of agmatine on amigdala kindling in rats

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Background
Agmatine is an endogenous amine synthesized from L-arginine. Agmatine has been found to be anticonvulsive in maksimal electoconvulsive and pentilentetrazol-induced epilepsy models. The aim of the present study was to investigate the effect of agmatine on amigdala kindling in rats.

Materials and methods
Using a kindling model of epilepsy, we examined effect of agmatine in epileptic rats. Kindled epileptic rats were prepared by repeated, initially subconvulsive, electrical stimulations applied to the amygdala through a chronically implanted electrode, resulting in the establishment of a long-lasting epileptic focus.

Results
Agmatine suppressed the development of the behavioral seizure score and afterdischarge (AD) duration recorded from the amygdala and cortex. Vehicle treated animals displayed grade V seizures at 12–15 stimulations. After 15 stimulations agmatine pretreated group (80 mg/kg) had only limbic seizures (grade II). None of the agmatine pretreated group had grade V after 30 stimulations which was cut-off.

Discussion
These results indicate that agmatine as an endogenous substance plays an important role in the seizure expression mechanism and the development of kindling-induced epileptogenesis.