EFFECT OF ADENOSINE RECEPTOR AGONISTS ON 
NEURODEGENERATIVE AND CONVULSIVE ACTIVITY 
OF MITOCHONDRIAL TOXIN, 3-NITROPROPIONIC ACID

Beata Zuchora¹, Ewa M. Urbańska¹,²,

¹Department of Pharmacology and Toxicology, Medical University, Jęczewska 8, PL 20-000 Lublin, Poland, ²Department of Clinical Toxicology, Institute of Agricultural Medicine, Jęczewska 2, PL 20-000 Lublin, Poland


3-Nitropropionic acid (3-NPA) is a mitochondrial toxin inhibiting the activity of succinate dehydrogenase. Its experimental application in rodents causes lesions of the striatum resembling the course of Huntington’s disease in humans. Recently, we have shown that 3-NPA is also a potent convulsive and proconvulsive agent. This study investigated the effects of adenosine receptor agonists on neurodegeneration and convulsions induced by 3-NPA. Adenosinergic agonists prevented seizures but not striatal neuronal loss evoked by 3-NPA, what suggests that different mechanisms might contribute to these pathologies associated with application of mitochondrial toxin.

Key words: 3-nitropropionic acid, mitochondrial toxin, seizures, neurodegeneration, adenosine

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