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A New Horizon in Neuroprotection: Erythropoietin

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Abstract

It has long been believed that neural cells do not have the potentials to proliferate nor regenerate in case they encounter diverse sorts of insults. As stroke and traumatic brain injuries, as well as other neurological disorders, have increased worldwide, there is a need for measures to decrease the mortality and disabilities that may ensue. During the last 25 years in animal, ex-vivo, in-vitro, preclinical and even in some clinical studies, cell protective effects of erythropoietin, a growth hormone used in erythropoiesis, was clarified. Near 270 articles including reviews and animal, in-vitro, ex-vivo and clinically case-control studies downloaded from science direct and pubmed websites were studied. A great number of studies have elucidated that neurological insults in their nature eventually follow a relatively common inflammatory cascade associated with hypoxic, hypoglycemic, oxidative and other stresses deleterious to neural cells. Erythropoietin and its receptor are distributed extensively in the nervous system and participate in many cell-protective anti-apoptotic pathways in neural tissue.



Biography:

Dr. Reza Nejat is a board certified Anesthesiologist and FCCM. After graduating from Tehran University of Medical Sciences (TUMS) as a general practitioner, he could achieve the ECFMG certification and also earned board certification in Anesthesiology from Iran University of Medical Sciences. He passed the fellowship programme in Critical Care Medicine at Sina Hospital, TUMS. During this period he was inclined to study molecular medicine in the field of sepsis, acute heart failure and neurocritical care discipline. Administration of EPO



to neurologically injured patients has been one of his field of interests and experience for the past 4 years.

He was the chief of few hospitals and assistant professor at Shahid Beheshti University of Medical Sciences for 8 years. Dr. Nejat has published 4 books in the fields of cardiology, nephrology, fluid and electrolyte, nutrition, metabolism and endocrinology. Two years ago, he contributed to the chapter of "Acute Heart Failure" in the reference book "Comprehensive Textbook of Therapeutics" studied by post-doc residents of pharmacotherapy. On his website, rezanejat.com, he publishes his articles.

Speaker Publications:

- 1. "Are losartan and imatinib effective against SARS-CoV2 pathogenesis? A pathophysiologic-based in silico study"
- 2. "Daily Low Dose of Erythropoietin in Neuroinflammation; EPO Might Be Hazardous in COVID-19"
- 3. "Daily Low Dose of Erythropoietin and Neuroinflammation"
- 4. "Are Losartan and Imatinib Effective Against SARS-CoV2 Pathogenesis? a Pathophysiologic-Based in Silico Study"

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