

PHARMACOLOGICAL CORRECTION OF ACUTE HYPERCAPNIC HYPOXIA WITH EPOPHEN

A. Ovcharova

Minsk - 2020

HYPOXIA

System level

- Activation of the sympathoadrenal and hypothalamic-pituitary-adrenal systems

- Violation of systemic hemodynamics, microcirculation, tissue diffusion, hemorheological disorders

- Hypoxemia, metabolic acidosis

- Systemic inflammatory response syndrome

Cellular level

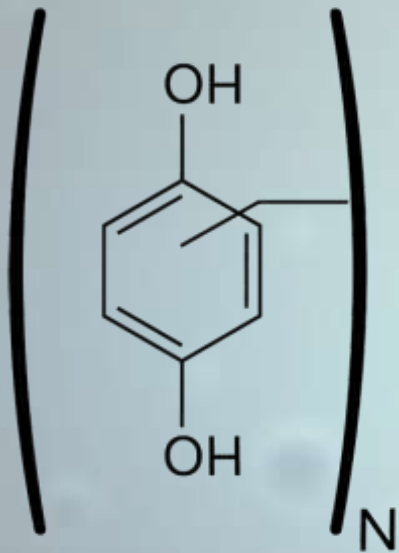
**Mitochondrial cytopathy
(bioenergetic - tissue hypoxia)**

**Multiple organ failure -
suppression of energy-dependent
functions functional and structural
abnormalities, activation of
processes of lipid peroxidation,
destrukcija membranes, necrosis
and necrobiosis.**



HYPERCAPNIC HYPOXIA (\uparrow pCO₂)





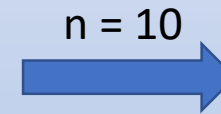
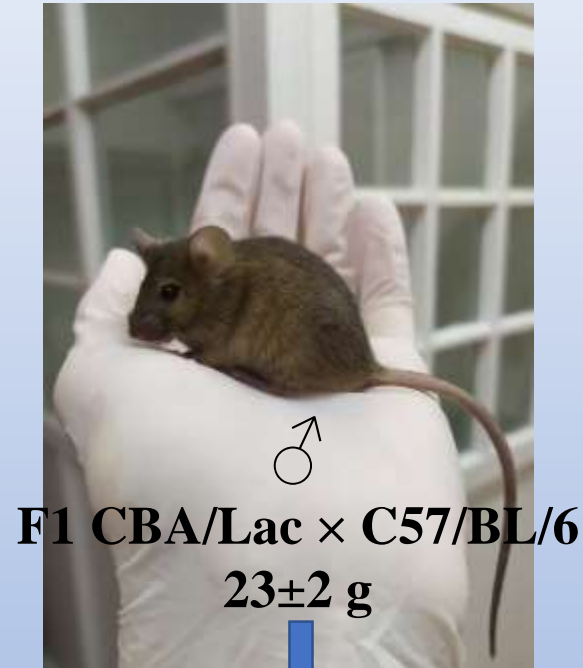
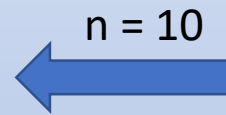
epO₂phen

LLC "Scientific and Production Company " Iglessia"

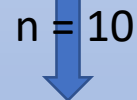
Epophen is a substance with polyphenolic structure. It prevents the development of lipid peroxidation reactions, stimulates the destruction of peroxidation products. In the posthypoxic period, it promotes rapid oxidation of accumulated restored equivalents-nicotinamide adenine dinucleotide phosphate (NADP, NADPN2), optimizes mitochondrial function and improves tissue respiration.

Scheme of the experiment

Piracetam
120 mg/kg
Intragastrically
V 0.5 ml



Epophen®
28 mg/kg
Intragastrically
V 0.5 ml



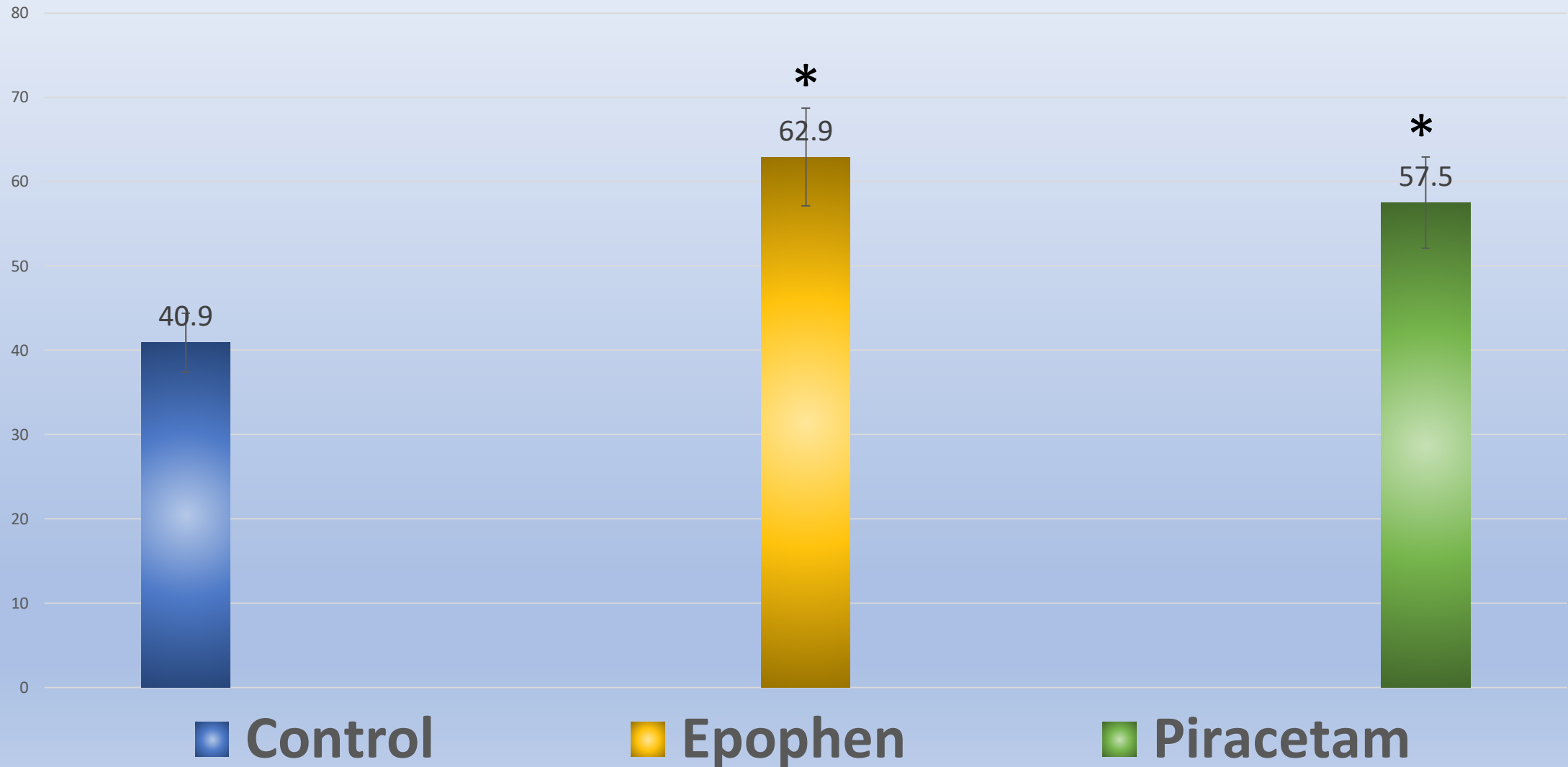
control group
Distilled water
Intragastrically
V 0.5 ml

Simulate acute hypoxic hypercapnic hypoxia



Mice were placed individually in jars ($V = 300\text{cm}^3$). We recorded the time elapsed from the moment a given jar was hermetically sealed to the moment the animal in the jar stopped breathing. The length of the time period in question was taken as the measure of the antihypoxic effect.

Life span of mice, min



Conclusion

- The life expectancy of mice due to acute hypercapnic hypoxia when using the Epophen exceeded the control value by 53.7% and the reference value (Piracetam) by 13.1 %. The results obtained in experiments on mice prove the presence of an antihypoxic effect in Epophen.

Thank for your attention!

