

# HEPATOPROTECTIVE ACTIVITY OF SPIROCYCLIC DERIVATIVE OXINDOLE UNDER ACUTE HEPATIC ISCHEMIA

Zhurenko D.S., Tsubanova N.A.

National university of Pharmacy, Kharkiv, Ukraine

Statistical data of the World Health Organization indicate that over 30% of adult population of the World suffers from hepatic disorders. One of severe hepatic pathologies is hypoxic hepatitis (HH). 61.5% of hospital mortality cases result from hypoxic hepatitis. There is a lack of drugs for optimal treatment of this disease.

**The goal of the research is:** to study the influence of spirocyclic derivative oxindole on animal survival under acute hepatic ischemia.

**Materials and methods.** The research was made on white nonlinear rats. The weight of rats was 180-240 g. Acute hepatic ischemia was modeled through clamping the vascular pedicle of the liver and bile passage. Animals were divided into groups as follows: - pseudo-operated animals; - controlled abnormality; - animals receiving "77" compound at a dose of 5 mg / kg; - animals receiving "vita-melatonin" drug for comparison at a dose of 5 mg / kg; - animals receiving "thiotriazolin" drug for comparison (synthetic hepatoprotector) at a dose of 48 mg / kg in the same mode.

**Results and discussion.** Hepatoprotective activity of spirocyclic derivative oxindole products and of "vita melatonin" and "thiotriazolin" drugs for comparison was evaluated on such integral indicator as reduction of mortality. 25-minute hepatic ischemia without pharmacological protection in animals of controlled abnormality group showed a high level of mortality (64.3%). This indicated the severe state and exceeded the indicator of pseudo operated group (0%,  $p < 0.001$ ).

Medical and preventive injection of "77" compound and "vita-melatonin" and "thiotriazolin" drugs for comparison reduced the mortality level in every treatment groups. However, the protective effect of "77" compound was mostly pronounced and reduced the mortality rate to 0%, and it significantly exceeded the index of "vita-melatonin" drug (40%,  $p < 0.001$ ) and "thiotriazolin" hepatoprotector (25%,  $p < 0.01$ ).

**Conclusions.** On the background of acute 25-minute hepatic ischemia succeeded by reperfusion, "77" compound - a new substance 4,3 '- spiro [(2-amino-3-nitril-4,5-dihydropyran [3,2-c]chromene-5-on)-5-methyl-2'-oxindole] shows evident hepatoprotective effect. It is verified with integral index of mortality decline of animals with acute distress.

Hepatoprotective activity of the studied compound is much more effective than activity of "vita-melatonin" and "thiotriazolin" drugs for comparison.