

OPTIMIZATION OF PREVENTION AND TREATMENT OF COLD TRAUMA BY MEANS OF METABOLITOTROPIC AND ANTI-INFLAMMATORY ACTION

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The negative effect of low temperatures on the body is found in most countries of the world. Such conditions can be accompanied by severe lesions of the body and be the cause of disability and death of the patient. According to some authors, the exit for disability in frostbite is more than 30%, and for deep lesions up to 90%. Every year cold injuries cause the death of more than 100 cases in Canada, 300 in England, 700 in the USA, 1000 in Ukraine.

A distinctive feature of cold injuries is the insufficient manifestation of clinical symptoms and untimely treatment. To prevent the death of victims, timely diagnosis and medical care must be provided. Factors that reduce the body's overall resistance to cold injuries include poor physical fitness, long-term real estate, poor nutrition, constant overwork, general diseases and alcohol abuse.

Under the influence of low temperatures in the human body, the functions of the endocrine and immune systems, disturbances in the CNS, circulation, respiration, metabolism and other vital processes change, which can lead to death.

Timely medical care for patients with cold injuries is a fundamentally important task on which the prognosis and course of the disease depends. Therefore, it is relevant to develop and introduce drugs capable of restoring metabolic processes and microcirculation in cold injuries - frigoprotectors.

Today frigoprotectors, actoprotectors and non-steroidal anti-inflammatory agents are most often used which affect the main links of the pathogenesis of cold trauma. Modern drugs used as frigoprotectors are not always quite effective or have serious side effects, and their arsenal in the Ukrainian market is limited.

In Ukraine the search for new frigoprotectors that do not have a significant number of contraindications and restrictions on use is relevant. Taking into account the above-mentioned general links of cold injury pathogenesis, one of the promising directions of pharmacotherapy improvement is study as potential frigoprotectors of already known medicinal substances with anti-inflammatory, membrane-stabilizing, antioxidant, actoprotective, reparative properties, and the like.

The National Pharmaceutical University is searching for potential phrygoprotectors of synthetic and natural origin, including among glucosamine preparations. The glycosamine has a wide range of pharmacological activity: anti-inflammatory, analgetic,

membrane stabilization, gepato-, neuro, nefro-, kardio-, gastro-, gravido-, hondroprotective, antiinflammatory, antioxidant properties, etc. These properties are collectively predictors of integral frigoprotective activity of glucosamine, which has been confirmed experimentally.

For the first time, expressive frigoprotective properties were discovered experimentally in glucosamine hydrochloride, which has distinct advantages compared to other preparations of this effect, primarily with the known frigoprotector acetylsalicylic acid. An increase in cold resistance under the influence of glucosamine is favorably distinguished by an expressive organoprotective influence which may be associated with a polytropic mechanism of action that connects metabolitotropic, anti-inflammatory. Important difference between glucosamine and acetylsalicylic acid is the effectiveness in cold injuries of various etiologies against the background of alcohol.

The obtained evidence open up new possibilities of using glucosamine preparations in the treatment and prevention of cold trauma of various etiologies and justify the feasibility of expanding indications for the medical use of glucosamine hydrochloride which is now used mainly as a chondroprotector.