

To sum up, the formation process of nourishing Yin and dehumidizing method: its theory originates from Huang-di Neijing. Zhang Zhongjing put forward the basic principles from the perspective of the rule of law, which has an important guiding effect on its formation. After generation doctor enrichment, with the rise of the Ming and Qing warm disease school, Ziyin connotation and application of the remove damp heat method reached a peak, represented by Ju Tong Ye Tianshi and Wu, Xue Shengbai characters. Therefore, Ye, Wu and Xue, etc. are the application and guidance of the development of the nourishing and humid heat law of later generations.

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THE ROLE OF PRIONS AND CHAPERONES IN THE DEVELOPMENT OF NEURODEGENERATIVE PATHOLOGY

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Abstracts: Pathophysiological analysis on prion pathology and role of chaperones in its development was carried out. It is supposed that the important part in the mechanism of prion diseases belongs to the system of chaperones.

Key words: prions, chaperones, pre-disease, prion diseases, neurodegenerative pathology.

Neurodegenerative diseases of a man and animals etiologically connected with a special protein – prion. These diseases are characterized by a severe progressive course and inevitable fatal outcome. The main aim of the given work was systematization of data concerning the role of prions and chaperones in the development of prion diseases. Prion diseases are unique that they have a double etiology – genetic and infectious. The fact of experimental transmission of prion diseases proved once and for all their infectious nature. A new class of infectious agents – prions (PrP^{Sc}) which considerably differ from microorganisms known before was opened. PrP^{Sc} is anomalous isoform coded by a master's cell of normal prion protein (PrP^C) [10, 11, 12]. PrP^C is glycoprotein localized on cellular surface and having glycosylphosphatidylinositol "anchor". The protein is found out in the structure of most tissues but its expression in the cells of nervous system is manifested most of all. There is supposition that PrP^C participates in antioxidant defense and prevention from cell death. Lowering of PrP^C amount and progressive increase of its anomalous form accompanied by oxidative destroy of vitally important organs' tissues especially of central nervous system occurs during the development of prion diseases [1, 2]. The symptoms of inflammation are not typical for pathology connected with prions, it is evidence that immune system probably does not recognize prion protein. It may be caused by that cell death is connected with their apoptosis. The confirmation is that apoptosis of neurons may be induced in vitro by their exposition with PrP^{Sc} or its neurotoxic fragment [6, 13]. Besides infectious forms of prion diseases, hereditary forms are also chosen, mutation of PRNP gene coding the primary structure of normal cellular form of prion protein is the basis of it. Nowadays about 20 mutations are known in PRNP gene that allows to suppose the appearance of new unknown before forms of prion diseases in future [1, 12, 13]. It is important to note the fact that proteins-chaperones can play a key role in forming and reproduction of prions. Chaperones are proteins which ensure the right coagulation (folding) of protein in the cell, forming of its native structure and also transport of synthesized protein to the place of its functioning [3, 4, 5, 9]. Chaperones interact with the proteins of blood in the first stages of its synthesis already preventing premature folding of polypeptide chains. Then chaperone complexes secure the right folding or refolding if the course of this process was disturbed. Chaperones also transport proteins into different compartments of the cell to the place of their functioning and take part in the transport of denatured proteins into proteasomic and lysosomic complexes [4, 8]. Inability of chaperones to perform their duties leads to the forming of albuminous aggregates and corpuscles of inclusion. Thus, the most general functions of chaperones are: participation in the folding of proteins; maintenance of native albuminous structure; refolding in case of "wrong" folding; translocation of proteins; prevention of proteins' aggregation. Besides, intracellular chaperones take part in regulation of process of apoptosis in cells and extracellular – in regulation of functions of the organism's immune system. Genetically caused and acquired disturbances of the structure and functions of proteins-chaperones lead to the development of a number of neurodegenerative diseases, cataracts, retinopathies. Apparently, the processes of aging can be connected with the disturbance of chaperones' functions to some extent [5, 7, 14]. The given data testify that chaperones are antagonists to prions and probably can play an important part of sanogenetic mechanism in the development of prion pathology.

Conclusion: The disturbance in the system of chaperones leads to the state of pre-disease and considerably influences on the development and dynamics of development of Neurodegenerative pathology

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STRUCTURAL CHANGES OF SKIN LIMBS OF LIMBS IN LOCAL COOLING ON THE BACKGROUND OF ANTIOXIDANT INTRODUCTION.

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Abstract The ambient temperature is one of the significant factors that affect the living organism. Man's mastery of Siberia, the northern territories and the southern subpolar, whose climatic features are low temperatures, draws special attention to questions about the possibilities, limits and mechanisms for adapting humans and animals to cold. In this case, there are some mechanisms of the damaging effect of the cold. This can be direct cryo damage, when a low temperature is used to conserve cells, cell suspensions and tissues. The following manifestation of the cold factor on the organism as a whole only at an ambient temperature below ~ 30 ° C and at the same time, on open areas of the body may arise

Key words: skin, epidermis, dermis, cold, antioxidants

Most cells and organs are able to withstand acute ischemic hypoxia within 30-60 minutes without irreversible damage, but the sensitivity of different tissues to ischemia is not the same. In open areas of the body, frostbites may occur due to the damaging effect of cold directly on the tissue.

Local cooling is one of the most common environmental impacts that a person experiences from time to time, living in the northern regions of Siberia and the Far East.

Lipid peroxidation (LPO) of cell membranes is one of the types of normal metabolic process and proceeds continuously with low efficiency in all tissues of the body. Under the action of low temperatures, free radicals accumulating in cells in the form of oxygen singlet to toxic concentrations lead to secondary damage to cell membrane structures. In the connective tissue there are signs of an inflammatory reaction. Destructive processes develop against a background of tissue temperature restoration.

Preparations of antioxidant action, in particular dihydroquercetin - the main flavanoid compound of larch wood of Siberia, has a wide spectrum of pharmacological effects, has antioxidant activity, which allows using it as cryoprotectant as a substance that prevents cellular edema.

Objective

The object of our study was the skin material of the legs of rats subjected to local frostbite of one of the hind limbs with a cotton swab soaked in liquid nitrogen. For pharmacological correction, animals received dihydroquercetin orally at a dose of 2.5 mg / 100g of weight for 7 days before the action of the cold factor and 2.5% of the ointment on a vaseline basis for 7 days similarly.

Materials and methods Methods of work were - histological - collection of material (macromicroscopic preparation), fixation, microtemporaing, staining: staining with hematoxylin and eosin, light microscopy of slices and analytical - morphometry, stereological analysis, statistical processing of the data.