

GLUTATHIONE: METABOLISM, FUNCTIONS AND MEDICAL APPLICATION

Akpama Thelma

Scientific supervisor: Krasilnikova O.A.

National University of Pharmacy, Kharkiv, Ukraine

thelmaakpama@gmail.com

Introduction. Glutathione (GSH) is a tripeptide, which has many biological roles including protection against reactive oxygen and nitrogen species. Glutathione has several additional functions in cells. It is a reserve form of cysteine, stores and transports nitric oxide, participates in the metabolism of estrogens, leukotrienes, and prostaglandins, the reduction of ribonucleotides to deoxyribonucleotides, the maturation of iron-sulfur clusters of diverse proteins, involved in the operation of certain transcription factors, and the detoxification of many endogenous compounds and xenobiotics.

Aim. The aim of this investigation is to analyze data about function of glutathione, its metabolism, disorders are associated with glutathione depletion and glutathione usage as a supplement and medication.

Materials and methods. In order to obtain data, reviews of the literature were studied, as well as articles on the research issue. Literature has been researched over the past 5 years.

Results and discussion. Glutathione plays a role in many chemical reactions in your body. It also helps detoxify chemicals, including some that your body creates naturally, as well as pollutants and drugs. Lower glutathione levels appear to go hand-in-hand with poorer health. For instance, lower levels may play a role in many conditions that are more likely to develop in older people. Glutathione is also involved in the formation and maintenance of disulfide bonds in proteins and in the transport of amino acids across cell membranes. Glutathione depletion has been implicated in many chronic degenerative diseases, for example neurodegenerative disorders, pulmonary disease, cardiovascular diseases, chronic age-related diseases, liver disease, cystic fibrosis, aging process itself. Glutathione is an herbal supplement which can be used for treatment in male infertility, plaque deposits in the arteries, cancers, chemotherapy adjunct, liver diseases, lung diseases, memory loss, and Parkinson's disease.

Conclusions. The Importance of Supporting Endogenous Antioxidant Systems the organism with various diseases today is no longer in doubt, since oxidative stress is a universal pathophysiological factor. The role of glutathione in health and disease remains a subject of active study. Oral glutathione is a promising tool for normalizing redox balance in liver diseases of various etiologies.