

ABSTRAKT

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Copper is an essential trace element of living organisms. Disorders of its homeostasis affect various pathological conditions. In excessive amounts, it is toxic due to its ability to form free radicals. Vitamin C, trolox (a water soluble form of vitamin E), glutathione and hydroxylamine possess reducing properties that protect our body from oxidative tissue damage. Oxidized glutathione (GSSG) was also tested for comparison. The object of study was to test the chelating ability of these substances. A simple and fast spectrophotometric method was used. The combination of reducing properties of copper and chelating agents could lead to an improvement in chelation therapy either in heavy metal poisoning, treatment of Wilson's disease, or other diseases. We found that all substances were chelators/copper-chelating agents *in vitro* in a slightly competitive environment, using hematoxylin as an indicator. However, by using the bathocuproine assays to verify chelating properties, none of the substances demonstrated chelating activity with exception of GSSG. Based on these results, it is apparent that the reduction of cupric ions may interfere with the hematoxylin chelation assay. Therefore, both the hematoxylin and the bathocuproine method must be always performed for the correct estimation of chelating abilities.