

Abstract

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Investigation of zinc and copper levels in methimazole-induced hypothyroidism: relation with the oxidant-antioxidant status.

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BACKGROUND: Thyroid hormones are associated with the oxidative and antioxidative status of the organism. Depression of metabolism by hypothyroidism has been reported to decrease oxidant production and thus protect tissues against oxidant damage.

OBJECTIVE: The purpose of the present study was to investigate Zn and Cu levels in MMI-induced hypothyroidism and to show whether there is a connection between these trace elements and the oxidant-antioxidant status in experimental hypothyroidism.

METHODS: 3-Nitrotyrosine was measured as a marker of nitro-oxidative stress. In order to examine the antioxidant status of MMI-induced hypothyroidism in rats, GSH and SOD levels were determined as well.

RESULTS: Significantly decreased 3-nitrotyrosine, Cu and Zn levels were observed in our experimental model when compared with the controls. On the other hand, GSH and SOD levels remained constant.

CONCLUSION: It may be suggested that Cu and Zn serve as antioxidant molecules and exert their effects in an indirect manner to reduce oxidative stress in experimental hypothyroidism.

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