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Assessment of myeloperoxidase levels in elderly patients with type 2 diabetes mellitus

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Background: Diabetes is a chronic condition that results in excessive blood sugar circulation, which can lead to disorders of the circulatory, nervous, and immune systems.

Many studies have shown that myeloperoxidase (MPO), a heme protein released by leukocytes, is involved in the process of oxidative stress and plays an important role in the initiation and progression of acute and chronic inflammatory diseases, suggesting a positive correlation between activation of MPO and metabolic disorders.

Purpose: Our study was proposed to assess levels of myeloperoxidase in two groups of elderly patients (69.15 ± 7.33 years): a group of control patients and a group of patients with type 2 diabetes.

Methods: MPO levels were determined in serum by immunoenzymatic assay and spectrophotometric detection at 450 nm.

Results: In this study, serum MPO concentration was demonstrated to be significantly higher in diabetic patients compared with non-diabetic group (625 ± 252.83 vs 436.66 ± 89.62 ng / ml serum).

Conclusions: In conclusion, patients with type 2 diabetes had increased serum MPO levels, which proves that MPO, being a pro-inflammatory enzyme, can be considered an early biomarker and indicator for inflammation associated with metabolic disorders in diabetic patients.

Keywords: myeloperoxidase, type 2 diabetes mellitus, elderly patients

Biography

Gianina Ioana Constantin is a senior scientific researcher and medical principal chemist in medical biochemistry specialization; expertise in biology of aging. Research fields: the study of the biochemical, immunological, cellular and molecular mechanisms in normal and pathological aging; research on establishing criteria for assessing the biological age and the rate of aging of the individual. She is author and co-author in over 43 scientific papers published, 145 scientific papers international congresses, 61 scientific papers national congresses, 6 national research programs, 1 FP7 - Health international program and member of OBBCSR and Romanian Society of Gerontology and Geriatrics.

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