LYSOSOMAL ENZYMES IN URINE FOR THE ASSESSMENT OF RENAL FUNCTION IN WORKERS EXPOSED TO GASOLINE

Environmental Nephrotoxicity Markers Laboratory, Department of Toxicology, Medical University of Wroclaw, Wroclaw, Poland

ABSTRACT

Introduction: The possibility of early detection of subclinical kidney damage in persons occupationally exposed to the chronic effect of chemical toxins is still the subject of investigations.

Material and Methods: In the present study, lysosomal enzymes: N-acetyl-D-glucosaminidase (NAG), isoenzyme NAG (NAG-B), β-glucuronidase (β-Gr), galactosidase (GAL) and γ-glutamyl transferase isoenzymes (GGT) were used to assess the renal function in workers exposed to gasoline. A group of 34 workers of the Polish fuel consortium PKN ORLEN SA and 31 healthy persons non-exposed to toxic compounds were examined.

Results: In the study group, statistically significant increase in the activity of NAG, NAG-B and GGT cytoplasmic fractions was observed.

Conclusions: The obtained results confirm that NAG, NAG-B and GGT isoenzymes are useful for detecting early subclinical kidney damage during exposure to gasoline vapours in reversible phase.

Key words: occupational exposure, gasoline, enzymuria

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Address for correspondence:
Zofia Marchewka
Department of Toxicology
Medical University of Wroclaw
Traugutta 57/59, 50-417 Wroclaw, Poland
Phone/fax: 48 71 344-43-75
E-mail: zomar@tox.am.wroc.pl

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