

BIOMONITORING OF ACRYLAMIDE, GLYCIDAMIDE AND N-ACETHYL-S-(2-CARBAMOYLETHYL)CYSTEIN IN HUMAN URINE

Hye-Seon Nam, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

Soon Keun Hong, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

Tae Sung Kim, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

Mi Gyeong Kim, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

Yong kwan Kwon, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

Gyu-Seek Rhee, *Kongju National University, Republic of Korea*

Jin-Heon Lee, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

Hye Jung Yoon, *National Institute of Food and Drug Safety Evaluation, Republic of Korea*

The objective of this study was to evaluate the internal exposure of acrylamide (AA) in Korean. We collected urine samples in the general population aged from 18 to 69 years (n=1,866) and measured concentration of AA, glycidamide (GA) and N-acetyl-S-(2-carbamoylethyl)cystein (AAMA) in urine samples.

Determination was developed by ESI-tandem mass spectrometry (ESI-MS/MS) in positive ionization mode.

The total geometric mean (GM) level was 5.39 ± 0.35 ng/g creatinine for AA, 7.17 ± 0.14 ng/g creatinine for GA and 20.13 ± 1.03 ng/g for AAMA in sample. No significant difference was observed between male (n=803, 5.45 ± 0.50 ng/g creatinine, 7.00 ± 0.13 ng/g creatinine) and female (n=1,063, 5.33 ± 0.36 ng/g creatinine, 7.34 ± 0.22 ng/g creatinine) both in AA and GA. But significant difference ($p < 0.001$) was observed between male group (23.06 ± 1.79 ng/g creatinine) and female group (17.56 ± 0.91 ng/g creatinine) in AAMA level.