

번호: PO-EM-023					
제 목	황사가 초등학교생에게 산화손상을 일으킬까? Does Asian Dust cause oxidative damage in school children?				
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<p>Asian Dust Events (ADEs) are the dust storm originating from Mongolia and China, and getting to Korea, Japan and even the West Coast of USA. This study evaluated the usefulness of urinary malondialdehyde (MDA) and 8-hydroxy-deoxyguanosine (8-OHdG) as oxidative stress biomarkers related to the ADE.</p> <p>Ambient air particulate matters (PMs) were measured by air monitoring device and metallic components level collected from Korea National Institute of Environmental Research (NIER). Urine samples were collected from 43 elementary school children in Deokjeok Island, Incheon city, Korea, and collected next day of the ADE (1st April, 2004) and six days after the ADE (6th April, 2004). Levels of urinary MDA and 8-OHdG were measured by HPLC-UV and ELISA, respectively.</p> <p>The levels of PM<sub>2.5</sub>, PM<sub>10</sub> and heavy metals (i.e. Fe, Pb, Mn, Ni and Zn) at the next day of ADE were higher than those monitored at six-days after the date of ADE. Levels of urinary malondialdehyde next day of the ADE (<math>3.38 \pm 1.97 \mu\text{mol/L}</math>) were higher than those of six days after the ADE (<math>2.73 \pm 1.57</math>) (<math>n=42</math>, <math>p=0.11</math> by paired t-test). Levels of urinary 8-OHdG next day of the ADE (<math>43.31 \pm 61.05 \text{ ng/ml}</math>) were significantly higher than those of six days after the ADE (<math>23.01 \pm 42.38</math>) (<math>n=42</math>, <math>p=0.02</math>).</p> <p>Our findings suggest that oxidative markers such as urinary MDA and 8-OHdG levels are increased by ADE in school children.</p>					