

제 목	간이 폐기능측정기 (mini-Wright)와 비강세척액 (Nasal Lavage)을 이용한 대기오염물질과 호흡기 건강영향 분석 Effects of Ambient Air Pollution on Respiratory Health of Workers at Highway Tollgate
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Abstract	<p>A large number of studies have indicated associations between the impairment of respiratory health and exposure to ambient air pollutants such as ozone(O<sub>3</sub>), nitrogen dioxide(NO<sub>2</sub>), sulfur dioxide(SO<sub>2</sub>), particulate matters(PM<sub>10</sub>).</p> <p>To evaluate this associations, we used the pulmonary function tests(peak expiratory flow rate: PEFR) by mini-wright peak flow meter and counting neutrophils in the nasal lavage(NL) as biomarker.</p> <p>From 15 June to 16 July 1998, for the workers in the tollgate booths, PEFR and NL were measured three times daily and twice per week. and association between the level of air pollutants and PEFR and NL were analyzed using the multiple regression model and the poisson regression model respectively.</p> <p>The results indicated that the effects of all measured air pollutants(SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, PM10) were not significantly associated with the value of PEFR, but the increasing concentration of SO<sub>2</sub>, O<sub>3</sub>, PM10 reduced pulmonary function. On the other side, SO<sub>2</sub>, NO<sub>2</sub>, PM10 were significantly associated with the number of neutrophils in NL. The increase in SO<sub>2</sub>, NO<sub>2</sub> of 10ppb and in PM10 of 10µg/m<sup>3</sup> was associated with 24%, 21%, 35% increases in relative risk(RR). But the ozone exposure was not associated with NL.</p>

Powell's  
method (1977)

Graham  
(1988)  
as PM<sub>10</sub>

neutrophil  
5 30%

Koren 등  
(1990)  
O<sub>3</sub> neutrophil  
5  
24% 증가

Hausey 등  
(1994)  
24% 증가

Hilerman 등  
(1991)

Q: