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제 목	GSTM1, T1 유전자다형성과 대기분진이 초등학교생의 최대호기량에 미치는 영향 GSTM1, T1 polymorphisms and particulate air pollutants on peak expiratory flow of school children			
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<p><b>Background:</b> Exposure to short-term particulate air pollutants has been reported to be associated with decrements in lung function. However, effect of genetic polymorphisms on the relationship has not been evaluated.</p> <p><b>Methods:</b> We investigated 43 healthy school children from 23 March to 3 May 2004. Questionnaire survey was performed in the first day with lung function measurement. Each student was provided with peak expiratory flowmeter to measure PEFr three times a day. Particulate air concentrations (PM<sub>2.5</sub>, PM<sub>10</sub>) were monitored everyday. GSTM1/T1 genetic polymorphisms were determined by multiplex PCR using DNA extracted from buccal washing fluids. We used a mixed linear regression model to estimate the association between PEFr and particulate air pollutants adjusting for personal and meteorologic variables.</p> <p><b>Results:</b> We found that morning PEFr was significantly decreased in subjects with GSTM1 null type compared to those with GSTM1 wild type (P&lt;0.01). By contrast, GSTT1 wild type was associated with PEFr reduction (P=0.06). Morning PEFr was significantly decreased in association with PM<sub>2.5</sub> concentrations with a 1 day lag (P&lt;0.01), but not with PM<sub>10</sub> concentrations (P=0.39). However, lead of PM<sub>10</sub> was significantly associated with morning PEFr reduction (P&lt;0.01). In the model considering both particulate pollutants and GST polymorphisms, PM<sub>2.5</sub> and lead of PM<sub>10</sub> were found to significantly reduce morning PEFr regardless of GST polymorphisms.</p> <p><b>Conclusions:</b> We found that acute lung function reduction was associated with particulate air pollutant concentrations and GST polymorphisms.</p>				