

환경역학		번호: II - B - 2			
제 목	국문	산모의 간접흡연노출과 산소성손상이 태아의 체중감소에 미치는 영향			
	영문	Reduction of neonatal birth weight by maternal exposure to environmental tobacco smoke and oxidative stress in pregnancy			
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<p>1) 연구 목적 Our objectives was to determine whether maternal exposure to environmental tobacco smoke or oxidative stress plays any role in lowering birth weight and pre-term delivery.</p> <p>2) 연구 방법 We conducted a survey in 2000-2001 among 264 pregnant women who hospitalized for delivery, and their singleton live births in three residential areas of Korea. Among the neonates, 246 births were full-term infants and 18 births were pre-term infants. Main outcome measurements are birth weight, gestational age, maternal and neonatal urinary concentrations of cotinine, and maternal urinary 8-hydroxydeoxyguanosine (8-OH-dG) and malondialdehyde (MDA)</p> <p>3) 연구 결과 The concentrations of maternal urinary cotinine (P&lt;0.01), 8-OH-dG (P=0.01), and MDA (P=0.02) were negatively associated with birth weight after adjusting for potential confounders. After further adjusting for gestational age, maternal urinary cotinine (P&lt;0.01) and MDA (P=0.02) remained statistically significant. Maternal weight at delivery (P&lt;0.01), gestational age (&lt;0.01), and neonatal sex (p=0.02) also affected birth weight significantly. Frequent consumption of meat (&gt;=5 times/wk), frequent alcohol use (&gt;=1 time/wk), a</p>					

maternal job, and residence in a heavily industrialized urban area were shown to negatively affect birth weight. Concentrations of maternal urinary 8-OH-dG ( $P=0.01$ ) and MDA ( $P<0.01$ ) were found to be significantly higher in the women with low birth weight infants than in the women with normal birth weight infants. The women with pre-term infants also had higher concentrations of urinary 8-OH-dG and MDA than in the women with full-term babies, but the differences did not reach statistical significance.

#### 4) 고찰

This study demonstrates that maternal exposure to ETS and maternal oxidative stress during pregnancy significantly reduce neonatal birth weight.