

学 位 論 文 の 要 旨

所 属	三重大学大学院医学系研究科 生命医科学専攻 環境社会医学講座	氏 名	許 蕾
<p>主論文の題名</p> <p>Decrease in Birth Weight and Gestational Age by Arsenic among Newborns in Shanghai, China</p> <p>主論文の要旨</p> <p>Objectives: To assess the effects of trace metals on birth weight and gestational age among newborns of mothers without occupational exposures.</p> <p>Design and Methods: Subjects examined were 142 newborns (71 males and 71 females) delivered at two university hospitals in Shanghai, China and their parents. Relationships of newborns' birth weight and gestational age to concentrations of arsenic, lead, cadmium, manganese, zinc, and cobalt in maternal and cord blood were investigated.</p> <p>Results: Birth weight of newborns was 3379.5 ± 440.8 (2090 - 4465) g and their gestational age was 39.7 ± 1.3 (35 - 43) weeks. The stepwise regression analysis indicated that, in male newborns, birth weight and gestational age were inversely related to logarithm of arsenic ($4.13 \pm 3.21 \mu\text{g/l}$) in mothers' whole blood, respectively.</p> <p>Conclusions: It is suggested that arsenic might have negative influence on newborns' birth weight and gestational age at relatively low exposure level. This effect was observed in male newborns but not in female ones, suggesting that males are more susceptible to arsenic at an early stage of development. Although birth weight is believed to be related to gestational age, arsenic may directly affect both birth weight and gestational age.</p>			

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