

## Reproductive effects 2

### 39 LEAD AND OTHER TRACE METAL EFFECTS ON GESTATIONAL HYPERTENSION

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**Objectives** Many studies have focused on the health effects of low levels of lead and other toxic metals after the exposure amount decreased in the past decades. To clarify the effects of trace metals on the pregnancy outcomes we have conducted a longitudinal study on apparently healthy pregnant women since 2007.

**Methods** Pregnant women, who were referred to the three research hospitals for prenatal care were asked to participate in the survey. A total of 364 singleton pregnant women, aged 16–35 years, were recruited. As pregnancy induced-hypertension develops several weeks before its clinical manifestation, we collected blood samples as early as possible (8–12 weeks of gestation) and continued blood sampling for second and third trimester to examine the causal relationship between increased metal concentrations and development of pregnancy hypertension. Blood metal was analysed using inductively coupled plasma-mass spectrometry.

**Results** Average whole blood level of antimony was significantly correlated with increase in both systolic and diastolic blood pressure. In contrast, blood concentrations of copper showed a negative correlation with gestational blood pressure.

**Conclusions** This finding is inconsistent with our previous study (2003–2004) and suggests that antimony could induce pregnancy hypertension in apparently healthy women.