

Bisphenol-A in maternal blood and amniotic fluid over a ten-year period

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The aim of this study was to determine BPA concentrations in maternal blood and amniotic fluid in the early second trimester over a ten-year period in Japan. Paired samples obtained at 16.3 ± 1.0 (mean \pm SD) weeks of gestation from 200 women (36.0 ± 0.4 year-old) were used for BPA measurements using the ELISA method. All subjects showed normal fetal karyotype. A median BPA concentration in maternal serum over a ten-year period was 2.24 ng/ml ranging 0.63 to 14.36 ng/ml. The median BPA concentration in amniotic fluid was 0.26 ng/ml ranging 0 to 5.62 ng/ml. The yearly BPA concentrations in maternal serum significantly ($p < 0.001$) decreased from 5.62 to 0.99 ng/ml, while those in amniotic fluid fluctuated within a range between 0 and 0.68 ng/ml. Eight of 200 fetuses were surrounded in amniotic fluid containing a relatively high level (2.80-5.62 ng/ml) of BPA. In seven of these eight cases, BPA concentrations in amniotic fluid were beyond those of maternal serum. In some instances human fetuses were exposed to BPA in the early second trimester that corresponds to a period of functional sex differentiation.