

LEAD, CADMIUM AND MERCURY CONCENTRATIONS IN UMBILICAL CORD BLOOD AND PREMATURITY BIRTH IN SBA REGION (WEST OF ALGERIA)

DEMMOUCHE abbassia; Bouhadiba Hadjer; Ferrag Dalila, Bekhda Hadjer, Moussaoui Faiza

Corresponding authors: Pr Abbassia DEMMOUCHE. E-Mail: demmoucheabbassia@yahoo.fr

Professor in biology. Laboratory of Biototoxicology. Faculty of Naturel Science and life Djillali Liabes. University Sidi Bel Abbes. Algeria.

Abstract

Objectives: Exposure to heavy metals such as lead, cadmium and mercury during pregnancy carries a great risk to the mother as well as the fetus. The aim of this study was to measure in umbilical cord blood the concentration of lead (Pb), mercury (Hg) and cadmium (Cd), and evaluates the relationship between this levels and prematurity. The lead, cadmium and mercury levels were measured by atomic absorption.

Methods: Lead, cadmium and mercury were measured in umbilical cord blood samples of 70 women who delivered at "service of obstetrics and gynecology" in Hospital-Center University of Sidi Bel Abbes region in Algeria between 2016 and 2017.

Results: The study showed obvious variations in, maternal characteristics, socioeconomic status and obstetric/ gynecological history for mother. The results revealed several factors predisposing to prematurity in addition, age of mother, Socio-economic level and History of abortion. The mean concentrations of cord blood lead, cadmium and mercury were; 18.97 µg/L, 0.26 µg/L, and 6.20 nmol/L, respectively. There was a highly significant direct correlation between cord lead concentrations and gestational age ($r=0.43$; $P = 0.017$), and we found that gestational age and birth weight inversely correlated with cord mercury concentration ($r=0.44$ and $r=0.57$ respectively). No correlation was observed between cord cadmium concentrations and gestational age.

Conclusion: This study has shown that pregnant women in this region of the country were exposed to high levels for heavy metals metals which need an intervention.

Keywords: Lead; Cadmium; Mercury; Pregnancy; Prematurity; Algeria



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