THE INFLUENCE OF INFANT'S EXPOSURE TO THIMEROSAL CONTAINING VACCINES ON THE DEVELOPMENT IN THE FIRST THREE YEARS OF LIFE

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Background and aims: The controversial topic of the early human exposure to mercury compounds is ethylmercury, which is present in the thimerosal-containing vaccines (TCV). The objective of this analysis was to determine the relationship between the infant's exposure to TCV and cognitive and psychomotor development of children during the first 3 years of life.

Methods: The cohort recruited prenatally in Krakow, Poland, included 310 children vaccinated against hepatitis-B, diphtheria, tetanus and pertussis using formula with or without thimerosal. The children development was assessed using the Bayley Scales of Infant Development BSID-II (12th, 24th and 36th month). Data were analyzed by multivariable linear and logistic regression, adjusted to potential confounders.

Results: Children exposed to TCV during the first year of life had lower psychomotor BSID-II scores at 12th, 24th and 36th month of life than those vaccinated without TCV ($\beta=-4.4$, $p=0.479$; $\beta=-13.8$, $p=0.014$, $\beta=-1.4$, $p=0.812$ respectively). The risk of the delayed psychomotor development as well as results of the mental developmental tests were not associated with the TCV-related exposure. Results were similar when we analyzed exposure to TCV during first two years of life.

Conclusions: Our study demonstrated that TCV administration in two first years of life was associated with significantly lower infants' psychomotor scores only in 24th month of life. However, TCV did not have an influence on children's cognitive development.

All studied children were a sample from cohort study on the susceptibility of fetus and child to environmental factors followed in Krakow with Columbia University in New York.