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## Prenatal and infant exposure to thimerosal from vaccines and immunoglobulins and risk of autism

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### Abstract

**Objective:** Exposure to thimerosal, a mercury-containing preservative that is used in vaccines and immunoglobulin preparations, has been hypothesized to be associated with increased risk of autism spectrum disorder (ASD). This study was designed to examine relationships between prenatal and infant ethylmercury exposure from thimerosal-containing vaccines and/or immunoglobulin preparations and ASD and 2 ASD subcategories: autistic disorder (AD) and ASD with regression.

**Methods:** A case-control study was conducted in 3 managed care organizations (MCOs) of 256 children with ASD and 752 controls matched by birth year, gender, and MCO. ASD diagnoses were validated through standardized in-person evaluations. Exposure to thimerosal in vaccines and immunoglobulin preparations was determined from electronic immunization registries, medical charts, and parent interviews. Information on potential confounding factors was obtained from the interviews and medical charts. We used conditional logistic regression to assess associations between ASD, AD, and ASD with regression and exposure to ethylmercury during prenatal, birth-to-1 month, birth-to-7-month, and birth-to-20-month periods.

**Results:** There were no findings of increased risk for any of the 3 ASD outcomes. The adjusted odds ratios (95% confidence intervals) for ASD associated with a 2-SD increase in ethylmercury exposure were 1.12 (0.83-1.51) for prenatal exposure, 0.88 (0.62-1.26) for exposure from birth to 1 month, 0.60 (0.36-0.99) for exposure from birth to 7 months, and 0.60 (0.32-0.97) for exposure from birth to 20 months.

**Conclusions:** In our study of MCO members, prenatal and early-life exposure to ethylmercury from thimerosal-containing vaccines and immunoglobulin preparations was not related to increased risk of ASDs.

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