Removing thimerosal from vaccines did not reduce autism cases in California

7 January 2008

Autism cases continued to increase in California after the mercury-containing preservative thimerosal was eliminated from most childhood vaccines, according to a report in the January issue of Archives of General Psychiatry, one of the JAMA/Archives journals. This suggests that exposure to thimerosal is not a primary cause of autism.

Diagnosed cases of autism and related conditions, known collectively as autism spectrum disorders, have increased in recent years, according to background information in the article. “Young children receive immunizations in the period preceding the typical manifestations or diagnosis of autism spectrum disorders,” the authors write. “Increased exposure to thimerosal, a preservative that contains 49.6 percent ethylmercury by weight, has been postulated to have contributed to the upswing in reported cases of autism spectrum disorders.” Thimerosal was eliminated from most vaccines by 2001. A 2004 report by the Institute of Medicine cited the lack of data supporting thimerosal as a cause of autism, but recommended that trends in autism diagnoses be observed as exposure to thimerosal decreased.

Robert Schechter, M.D., M.Sc., and Judith K. Grether, Ph.D., of the California Department of Public Health, Richmond, studied the prevalence of children with autism in California from 1995 through March 2007. They used data provided by the California Department of Developmental Services, which administers a statewide system of centers that serve individuals with autism and other developmental problems.

“The estimated prevalence of autism for children at each year of age from 3 to 12 years increased throughout the study period,” the authors write. Per 1,000 children born in 1993, 0.3 had autism at age 3, compared with 1.3 per 1,000 births in 2003. The highest estimated prevalence—4.5 cases per 1,000 births—was reached in 2006 for children born in 2000. “Although insufficient time has passed to calculate the prevalence of autism for children 6 years and older born after 2000, the prevalence at ages 3 to 5 years has increased monotonically for each birth year since 1999, during which period exposure to thimerosal has been reduced,” they continue.

In addition to analyzing the prevalence of autism by birth year, the researchers also examined the rate among children age 3 to 5 based on quarterly reports issued by the Department of Developmental Services. Prevalence increased each quarter from January 1995 (0.6 per 1,000 live births) through March 2007 (4.1 per 1,000 live births), including after 2004, when the researchers estimate that exposure to thimerosal during infancy and early childhood declined. Over the same time period, the rate of all developmental disabilities increased but at a slower rate, from 5.4 to 9.5 per 1,000 live births.

“The hypothesis that a modifiable risk factor, such as thimerosal exposure, is a major cause of autism offers the hope for prevention through reduced exposure,” the authors conclude. “Although our analysis of Department of Developmental Services data shows an increase in autism in California despite the removal of thimerosal from most vaccines, we support the continued quest for the timely discovery of modifiable risk factors for autism and related conditions. Continuing evaluation of the trends in the prevalence of autism for children born in recent years is warranted to confirm our findings.”

Source: JAMA and Archives Journals