Combined MMRV vaccine shows slight rise in adverse events

June 9 2014

The combined measles–mumps–rubella–varicella (MMRV) vaccine shows a slightly increased risk of febrile seizures in children, compared with the previously separate vaccines for MMR and varicella (chickenpox) (MMR+V), according to an article in *CMAJ* (*Canadian Medical Association Journal*).

The MMRV vaccine was developed for young children to reduce the number of needles they receive. However, the combined vaccine has been associated with slightly higher rates of febrile seizures.

Febrile seizures can accompany high fever in young children; although distressing, they are not associated with ongoing health issues.

"Combining MMR and varicella into a single vaccine decreases pain for children and distress for parents, thus addressing common barriers to vaccine uptake, and may improve vaccination coverage levels and decrease immunization delivery costs," writes Dr. Shannon MacDonald, Faculty of Medicine, University of Calgary.

"Febrile seizures are typically self-limiting and rarely have long-term effects, but they can be extremely distressing for parents, may precipitate acute care visits and may undermine confidence in immunization programs."

To determine whether there is an increased risk of febrile seizures from the combined vaccine, researchers looked at data on 227 774 children

aged 12 to 23 months who received either the MMR+V or the MMRV vaccine between 2006 and 2012 in Alberta, Canada.

The researchers found a slight increase in the relative risk of febrile seizure with the MMRV vaccine compared with the MMR+V vaccine—about 1 excess seizure for every 2841 doses administered in the 7- to 10-day period after vaccination. Although this rate is double that for the MMR+V vaccine, the absolute risk is relatively small. The researchers suggest counselling parents about the risk of fever and to use children's fever medication to alleviate symptoms.

Two versions of MMRV are used in North America. Canada uses the Priorix-Tetra formulation, as does Australia, Italy and Germany; the United States uses ProQuad. Priorix-Tetra is also approved for use in many member states of the European Union.

This study's findings are consistent with the results of a study of the US version of the vaccine.

"It is a matter for debate whether the choice of separate versus combination vaccine is a policy decision or a choice for parents to make in consultation with their vaccination provider," the authors conclude.

More information: Paper: www.cmaj.ca/lookup/doi/10.1503/cmaj.140078

Provided by Canadian Medical Association Journal