

Editorial



Protection against Severe Varicella Disease

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► See the article “Effects of One-dose Varicella Vaccination on Disease Severity in Children during Outbreaks in Seoul, Korea” in volume 34, number 10, e83.

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Although varicella is considered as a benign childhood disease, it is potentially severe and represents a considerable health burden. Thus, safe and effective approaches are needed to prevent varicella. The development of varicella vaccine dates back to 1974, using Oka strain of varicella zoster virus.¹ One or two dose schedules have been effective in preventing varicella, particularly moderate to severe disease. In the United States, data suggest that there was an 87% decline in hospitalizations and 66% decline in deaths due to varicella following the widespread use of one dose of varicella vaccine.² While there have been substantial reductions in varicella-related deaths and complications, varicella outbreaks have been occurring among highly vaccinated school children as the form of breakthrough varicella.

In this issue of the Journal, Lee et al.³ focuses on the evidence of the effect of one-dose varicella vaccination in Korean children on the prevention of severe varicella. The findings of the study are encouraging because this is the first population-based study to assess the impact of a universal one-dose varicella vaccination on disease severity in Korea. However, it is regrettable that the criterion for severity was the number of rashes, which did not directly assess the reduction in morbidity and mortality due to varicella. There is a concern for mild breakthrough cases because it can be undiagnosed due to the difficulty in making a diagnosis on clinical presentation alone. As the vaccine has been introduced, the decrease of circulation of varicella has led to a decrease in the chance for natural booster. Since varicella circulation is diminished but not eliminated, children with mild breakthrough infection then become a node of transmission thus posing outbreak potentials to the community.

Varicella vaccine has been available in Korea for almost 30 years.⁴ One-dose varicella vaccine has been recommended for all children aged 12–15 months as the National Immunization Program since 2005. It is unfortunate that no data on impact of varicella vaccination at the population level are available in Korea. Despite the high vaccination rate, the national notifiable diseases surveillance system reported that the incidence of varicella has been continuously rising, with an annual 16.7% increase in notified varicella cases, from 46,330 in 2015 to 54,060 in 2016.⁵ It was unclear whether this was a true rise in the incidence or was from increased reporting; however, a recent study suggested that varicella-associated medical utilization has been declined based on the analysis of the claims data of the National Health Insurance Service.⁶ Therefore, a rise in the number of reported varicella cases is likely

due to increased reporting rather than a true rise. However, questions still remain regarding the effectiveness of varicella vaccines in Korea because a previous study that assessed the effectiveness of the vaccine suggested diminished vaccine effectiveness.⁴ Thus, it is important to know the nationwide epidemiologic data on impact of varicella vaccination program in Korea to guide adequate vaccination strategies.

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