Editorial

Should varicella vaccine be included in the routine immunization programme?

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With accumulating evidence of the effectiveness of varicella vaccine to protect very young children, there are still concerns that the usage of this vaccine in young children may result in a right shift in the age distribution of this infection, with potentially more severe diseases later in childhood and adolescence (1). In Pediatrics, Baxter *et al*. presented their findings that varicella vaccine led to a decline of varicella incidence and hospitalization rate in all age groups, with no shift to older age groups (2).

These results, based on cross-sectional surveys of five periods (pre- and post- vaccine times), showed the varicella incidence in 2009 decreased by 90% to 95% in all age groups compared with that in 1995, and this decrease was independent of the vaccination status of the subjects, and no increase in susceptibility rates was observed in any age category compared with the pre-vaccination era.

Although several studies have demonstrated the effectiveness of the varicella vaccine in different populations, it has only been included in the routine immunization programme in a limited number of countries and areas, such as Australia, Canada, Germany, Greece, New Zealand, Qatar, Taiwan, Hong Kong, South Korea, the USA and Uruguay (3). It was estimated that about 32 million people were annually immunized (4). It is paradoxical that one of the best varicella vaccines (the Oka strain) has been developed in Japan and recommended by the World Health Organization (WHO), whereas it is not listed in the routine vaccination program in Japan with only a 20-30% coverage rate among children (4).

The hesitation in embracing varicella vaccines is partly due to the concern of increased risks in the adolescents and adults (5,6). In this respect, the study by Baxter *et al*. provided timely evidence to alleviate this concern and encourage the inclusion of varicella vaccine in the immunization programme.

However, one question not covered by this analysis is whether the incidence of herpes zoster increased or not after varicella vaccination, as there is concern that exposure to varicella may boost immunity to herpes-zoster (7,8). It was possible that the implementation of varicella vaccination reduced the exposure to this virus, and then increased the possibility of the risk of herpes zoster in late life. And it has reported in some studies that the risk of herpes zoster was lower in individuals exposed to varicella virus than that in individuals without such exposures (9,10); statistical modeling also suggested that the increase in the risk of herpes zoster associated with varicella vaccination may last for as long as 50 years (11). Some other studies reported no increase of herpes zoster incidence after varicella vaccination (12). So it is warranted to conduct further analyses based on the Kaiser Permanente of Northern California Health Care Delivery System.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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