



Prevalence and Causes of Childhood Urticaria

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Urticaria is one of the most common skin disease, characterized by the development of wheals (hives), angioedema, or both and it is classified as acute or chronic form based on the duration of illness. Urticaria of longer than 6 weeks duration is classified as chronic urticaria, which is further classified into chronic spontaneous or inducible urticaria. Acute urticaria is more prevalent than chronic urticaria; however, chronic urticaria has a more significant impact on quality of life due to recurrence and unknown etiology.¹ As in adults, the causes are different between acute and chronic urticaria in children,²⁻⁸ and it is difficult to determine the exact prevalence of childhood urticaria due to lack of population-based studies.

Common causes or triggers of acute urticaria in children include infections, medications, and foods, while acute spontaneous urticaria is common in young children with atopy. Infection appears to be a more frequent predisposing cause of urticaria in infants and children compared with adults. Infection is the most frequently documented cause (more than 40%) in children with acute urticaria.¹⁻³ In a recent systematic review, viral infection was a potential trigger and sometimes the main cause in acute and chronic urticaria.⁴ The rate of identification of a specific cause in children with chronic urticaria varies from 20%-50%, but in practice, most patients have no precise causes and are classified as chronic idiopathic urticaria. The underlying causes of chronic spontaneous urticaria do not appear to be different between children and adults; however, their frequencies are different.¹ In recent studies, more than 30% of children with chronic urticaria are classified as chronic autoimmune urticaria.^{5,6} Even though the prevalence is lower in children than in adults, nonsteroidal anti-inflammatory drugs are identified as major aggravating factors of chronic spontaneous urticaria in children.^{7,8} In the very recent studies of adults with chronic urticaria, serum vitamin D levels were likely to be lower and showed significant negative associations with urticaria activity score and duration.^{9,10} Furthermore, several studies have proposed that vitamin D plays a beneficial role in the treatment of adult chronic urticaria; however, the role of vitamin D is still controversial and

it is unclear in children with chronic urticaria.^{11,12}

Disease activity in spontaneous urticaria usually assessed with the urticaria activity score (UAS) for 7 days, and the recently provided guideline of chronic urticaria recommends use of the UAS for evaluating severity and guiding management. The UAS is based on the assessment of key urticaria symptoms (wheals and pruritus), and it is useful for assessing the urticaria activity by both patients and their physicians.¹

In a previous study, it is estimated that up to 15%-25% of adults experience at least 1 episode of acute urticaria during their lifetime.¹³ A recent population-based questionnaire survey showed that the lifetime prevalence rate of urticaria in adults was 8.8% for all types of urticaria,¹⁴ whereas the prevalence of chronic urticaria in the general population has been estimated to range from 0.5% to 5%.¹⁵ Chronic urticaria in children is expected to be less common than in adults; however, the exact prevalence is unknown because reliable epidemiologic studies are scarce in children with chronic urticaria. In a recent population-based German birth cohort study, the incidence and cumulative prevalence of urticaria in infants and children were reported.¹⁶ The incidence of urticaria was approximately 1% per year of age and the cumulative prevalence of urticaria in children at the age of 10 years was 14.5% for boys and 16.2% for girls, but the prevalence of chronic urticaria was not evaluated separately.

In the current issue of the *Allergy, Asthma and Immunology Research*, Lee *et al.*¹⁷ reported a valuable study on the prevalence and risk factors of acute and chronic urticaria in Korean children, and it is the first population-based epidemiological study to estimate the prevalence of chronic urticaria in children. This cross-sectional study examined children from the general pedi-

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atric population aged 4-13 years, and a total of 4,076 children who completed full sets of questionnaire were enrolled. The lifetime prevalences of any type of urticaria and current urticaria were 22.5% and 15.3%, respectively. Among the current urticaria, the prevalences of acute, chronic, chronic continuous, and chronic recurrent urticaria were 13.9%, 1.8%, 0.7%, and 1.1%, respectively. Compared with previous studies, the prevalences and proportions are similar in adults; however, it is difficult to compare them with other studies in children because there are few reliable population studies on this issues.¹⁴⁻¹⁶ Lee *et al.*¹⁷ also evaluated various risk factors that might induce urticaria, such as exposure to specific foods or drugs, cold exposure, hot exposure, common cold, changes in the environment, stress, and socio-economic status. Therefore the personal and parental histories of allergic diseases may be associated with acute urticaria, but not with chronic urticaria. This result may be explained by the fact that chronic urticaria differs from acute urticaria in etiology and pathophysiology in children. In addition, they reported that chronic continuous urticaria is associated with living in a new residence and belonging to a family with high income. This finding is new and interesting while detailed and well-designed prospective studies are required to confirm this finding. The results of this population study provide new information on the prevalence and clinical implications of childhood chronic urticaria, even though this study has several limitations due to its questionnaire-based study.

There have been few prospective studies on the natural course of chronic urticaria in children. Until now no specific predictive factors for remission was identified. Age, gender, or ASST results does not affect the prognosis of chronic urticaria in children.¹⁸⁻²⁰ In a recent prospective study in Thai children, the remission rates at 1, 3, and 5 years after the onset were 18.5%, 54%, and 67.7%, respectively.²⁰ A 1-year remission rate in Korean children was 84.8%, which is higher than those of other studies.¹⁹

In summary, in the current issue of AAIR, it is reported that the first study evaluating the prevalence of chronic urticaria in children, even though it has several limitations due to its cross-sectional, questionnaire-based design. So far, most of the guidelines for the diagnosis and management of urticaria have provided little information for children.¹ Further studies are required to determine the etiologies, management, natural course, and prognostic factors of chronic urticaria in children.

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