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Abstract:
Allergic rhinitis (AR) is one of the most common chronic diseases, usually starting in the first 2 decades of life. Information on predictors, risk, and protective factors is missing because of a lack of long-term prospective studies. Our aim was to examine early-life environmental and lifestyle determinants for AR up to age 20 years. In 1990, the Multicenter Allergy Study included 1314 newborns in 5 German cities. Children were evaluated at 19 time points. A Cox regression model examined the associations between 41 independent early-life factors and onset of AR (as the primary outcome), including sensitization against aeroallergens and the secondary outcomes of nonallergic rhinitis and AR plus asthma. Two hundred ninety subjects had AR within 13,179 person years observed. The risk of AR was higher with a parental history of AR (adjusted hazard ratio [aHR], 2.49; 95% CI, 1.93-3.21), urticaria (aHR, 1.32; 95% CI, 1.00-1.74), or asthma (aHR, 1.29; 95% CI, 0.95-1.75). Early allergic sensitization (aHR, 4.53; 95% CI, 3.25-6.32), eczema within the first 3 years of life (aHR, 1.83; 95% CI, 1.38-2.42), male sex (aHR, 1.28; 95% CI, 1.02-1.61), and birthday in summer or autumn (aHR, 1.26; 95% CI,
1.00-1.58) were independent predictors of AR up to age 20 years. None of the other socioeconomic, environmental, lifestyle, pregnancy, and birth-related factors were associated with AR. Only nonmodifiable factors, particularly early allergic sensitization or eczema and parental AR, predicted AR up to age 20 years. No modifiable aspects of early-life environment or lifestyle were identified as targets for primary prevention.