Association between asthma control trajectories in preschoo...disease remission

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In this multicentre population-based cohort study, the worse the asthma control trajectory shortly following diagnosis in preschoolers, the lower the likelihood of remission https://bit.ly/3lHVsnf


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ABSTRACT

Introduction: Early disease morbidity has been associated with asthma persistence in wheezing preschoolers; however, whether asthma control trajectories shortly after diagnosis could influence remission is unknown. We examined the association between asthma control trajectories 2 years post-diagnosis in preschoolers and subsequent disease remission.

Methods: We conducted a multicentre population-based retrospective cohort study consisting of 48,687 children with asthma diagnosed before 5 years old and born between 1990 and 2013 in four Canadian provinces who had prolonged disease activity post-diagnosis. Prolonged disease activity was defined as one or more medical visits or medications for asthma every 6-month period for at least four of the six periods post-diagnosis. Follow-up began at 3 years post-diagnosis (at cohort entry). Remission was defined as 2 consecutive years without drug claims or medical visits for asthma or asthma-like conditions following cohort entry. Asthma control trajectories, ascertained over four 6-month periods following diagnosis using a validated index, were classified as: “controlled throughout”, “improving control”, “worsening control”, “out of control throughout” and “fluctuating control”. Adjusted Cox models estimated associations between asthma control trajectories and time to remission. A random effects meta-analysis summarised province-specific hazard ratios (HRs).

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Results: The pooled remission rate was 8.91 (95% CI 8.80–9.02) per 100 person-years. Compared with children controlled throughout, poorer asthma control was associated with incrementally lower hazard ratios of remission in four other trajectories: improving control (HR 0.89, 95% CI 0.82–0.96), fluctuating control (HR 0.78, 95% CI 0.71–0.85), worsening control (HR 0.68, 95% CI 0.62–0.75) and out of control throughout (HR 0.52, 95% CI 0.45–0.59).

Conclusions: Asthma control trajectories 2 years following a diagnosis in preschoolers were associated with remission, highlighting the clinical relevance of documenting control trajectories in early life.