

Respiratory outcomes in the first ten years-of-life in children with gastroschisis: a retrospective cohort study

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Abstract

Background Little attention has been given to the long-term respiratory outcomes of children with gastroschisis. The purpose of this study was to determine if gastroschisis survivors have more respiratory illnesses in their first 10 years-of-life compared to age-matched controls. **Methods** We performed a retrospective cohort study of all gastroschisis children born in Manitoba between 1991-2017. Gastroschisis cases were identified from a clinical database, and a date-of-birth matched control cohort was constructed from a population-based data repository. International Classification of Disease codes were used to compare the risk and frequency of respiratory diagnoses for children with gastroschisis to date-of-birth matched controls from 0-5 years-of-age and 5-10 years-of-age. **Results** The 0-5 years-of-age analysis included 117 gastroschisis cases and 1205 date-of-birth matched controls; children with gastroschisis had a higher risk of asthma (RR=1.46, 95%CI:1.03,2.55, p=0.029), acute bronchitis/bronchiolitis (RR=1.61, 95%CI:1.27,2.03, p<0.001), pneumonia (RR=1.99, 95%CI:1.45,2.72, p<0.001), viral pneumonia (RR=5.15, 95%CI:1.79,14.81, p=0.007), and pneumonia due to unspecified organism (RR=2.06, 95%CI:1.45,2.92, p<0.001). Gastroschisis children 0-5 years-of-age were also diagnosed more frequently with bronchitis/bronchiolitis (RR=2.14, 95%CI:1.79,2.57, p<0.001) and viral pneumonia (RR=8.10, 95%CI:3.79,17.31, p<0.001). The 5-10 years-of-age analysis included 73 cases and 738 controls; no difference in the risk of respiratory illness was found for gastroschisis cases and controls in this age group. However, gastroschisis cases were more frequently diagnosed with bacterial pneumonia (RR=3.03, 95%CI:1.67,5.51, p<0.001) and influenza (RR=3.03, 95%CI:1.67,5.51, p<0.001). **Conclusion** Our study shows that children with gastroschisis have an increased risk of asthma and respiratory infections compared to children without gastroschisis, especially in the first 5 years-of-life.

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