Respiratory morbidity after hospitalisation with Respiratory Syncytial Virus and Rhinovirus infection

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European Respiratory Journal 2017 50: OA4631; **DOI:** 10.1183/1393003.congress-2017.OA4631

**Abstract**

**Introduction:** It is well known that hospitalisation as an infant with RSV bronchiolitis is associated with increased respiratory symptoms up to 13 years old. (Stein, Lancet, 1999). More recently, the importance of both early rhinovirus (RhV) infection and particular RhV strain (esp. RhV C) in children has also been highlighted (Cox, AJRCCM, 2013).

**Aims:** To determine how often infants hospitalised in the first 6 months of life with RSV or RhV infection re-attend hospital and whether frequency and speed of re-attendance differs depending on virus.

**Methods:** All respiratory PCR tests at Alder Hey Children’s Hospital, Liverpool, UK between 2013-16 were selected. Infants under <6 months, hospitalised for the first time with a RSV or RhV+ve respiratory illness were identified. Data on frequency and time taken to re-attend A&E were analysed using Mann-Whitney and Kaplan Meier Plots respectively on SPSS Statistics 24.

**Results:** Over this time respiratory PCR testing was performed on 3684 children; 821 infants <6 months were hospitalised with respiratory symptoms, 360 had RSV (only) and 120 had RhV(only). In the year following hospitalisation, 53% of RSV+ve patients and 60% of RhV+ve patients re-attended A&E. RhV+ve patients presented more frequently (2.88 vs 2.07 times; p<0.01) and quickly than RSV+ve patients(170 vs 227 days; p=0.01).

**Conclusions:** Patients admitted to hospital with respiratory illness caused by RhV re-attend more frequently and quickly to hospital than those with RSV infection. Future work will examine the importance of RhV strain on this phenomenon.