2494. Influenza B Hospitalizations Are Associated With Mortality in Children, FluSurv-NET, 2011–2017
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Background. Influenza B viruses (B) co-circulate with influenza A viruses (A) and contribute to influenza-associated hospitalizations each season. We used data from the Influenza Hospitalization Surveillance Network (FluSurv-NET) to determine the association between B virus hospitalizations and mortality among children.

Methods. We included data from children aged 0–17 years, residing in a FluSurv-NET catchment area, and hospitalized with laboratory-confirmed influenza during 2011–2012 through 2016–2017. We abstracted data on underlying conditions, clinical course and outcomes from medical charts. After excluding patients with unknown influenza type or with A/B coinfection, we compared characteristics of children hospitalized with A vs. B using univariate analyses and multivariable logistic regression, to determine the independent association between virus type and in-hospital mortality.

Results. Among 7671 children hospitalized with influenza, 5607 (73%) had A and 2064 (27%) had B. The proportion of B hospitalizations varied by season from 11% during 2013–2014 to 42% during 2012–2013. Among children with B, median age was 4 years (interquartile range 1–8 years), 58% were male and 36% were non-Hispanic white. Approximately 15% of children with B were more likely to be older, have cardiovascular and neurologic disease, to be vaccinated (38 vs. 32%), and to be hospitalized 2 days after illness onset, and were less likely to have asthma and receive antivirals (71 vs. 79%) compared with those with A (P < 0.05). There were no differences in the proportion with ≥2 underlying condition (59% both groups). Patients with B vs. A were no more likely to require intensive care (19 vs. 20%; P = 0.94) or receive mechanical ventilation (6 vs. 5%; P = 0.13); however, patients with B were more likely to die in-hospital (1 vs. 0.4%; P = 0.01). The unadjusted odds of in-hospital mortality for children with B vs. A was 2.3 (95% confidence interval (CI) 1.3–4.1), which remained elevated at 2.0 (95% CI 1.1–3.7) after adjusting for age, sex, season and underlying conditions.

Conclusion. Influenza B virus infections were associated with severe outcomes among hospitalized children. Although death was uncommon, children with B had twice the odds of dying in hospital compared with those with A virus infection.

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2496. A Comparative Evaluation of the Burden of Disease Caused by Influenza A and Influenza B During the 2011–2012, 2012–2013, and 2013–2014 Influenza Seasons in Canada Gaston McParland, BScH, MD Candidate; Michaela Nichols, MSc; Melissa K Andrew, MD, PhD; Todd F Hatchette, MD FRCPC; Ardith Ambrose, RN; Lingyun Ye, MSc; Shelly A McNiel, MD, FIDSA and on behalf of the Canadian Influenza Immunization Research Network (CIRN) Serious Outcomes Surveillance (SOS) Network Investigators; Canadian Center for Vaccinology, IWK Health Centre and Nova Scotia Health Authority, Dalhousie University, Halifax, NS, Canada

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Background. When assessing burden of influenza disease, influenza B has typically been associated with infection in children and young adults, and is considered less prevalent and/or severe in older adults. We sought to assess the burden of influenza disease compared with influenza type B disease in Canadian adults admitted to hospital with laboratory-confirmed influenza.

Methods. The Serious Outcomes Surveillance (SOS) Network of the Canadian Immunization Research Network (CIRN) conducted active surveillance for laboratory-confirmed influenza in influenza seasons 2011–2012 to 2013–2014. Eligible patients who were admitted to hospital with a confirmed influenza illness were captured. Ninety Index scores were also collected at baseline and 30- and 90-days after discharge, when possible, in patients ≥65 years. Patients with influenza A and B were compared using descriptive statistics; discrete outcomes were compared using Chi-squared (χ²) tests; continuous outcomes were compared using student’s t-tests.

Results. Overall, there were 3484 influenza A cases and 1375 influenza B cases enrolled in the SOS Network from 2011 to 2014. Mean age was significantly different between influenza A and influenza B cases (mean age of influenza A: 65.8 years; mean age of influenza B: 71.2 years; P < 0.01). A significantly larger proportion of influenza A B patients were significantly more frail prior to the onset of illness (A: 0.21, B: 0.22, P < 0.01).

Conclusion. Current attitudes consider influenza A to be the more significant virus in terms of morbidity and mortality in adults. However, influenza B is responsible for similar hospitalization and similar mortality rates. In addition, influenza B predominantly affected the frail elderly and thus optimizing influenza B protection is important in this population.

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