PEDIATRIC INTENSIVE CARE UNIT (PICU) ADMISSIONS FOR RESPIRATORY SYNCYTIAL VIRUS (RSV) INFECTION IN THE ERA OF PALIVIZUMAB PROPHYLAXIS

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OBJECTIVES: To examine the characteristics of patients admitted to PICU with RSV infection following provincial approval of RSV prophylaxis in June 2002. Secondly, to determine if patients had received palivizumab and document incurred medical costs.

METHODS: A retrospective, hospital medical records review of all PICU admissions for RSV infection from January 1, 2003 to December 31, 2009. RSV infection was identified by ICD codes and cases were confirmed by RSV hIAr test, culture, or PCR.

RESULTS: Data was collected on baseline demographics, underlying disease, criteria for hospitalization, type of respiratory illness and management, complications and palivizumab status. Group 1 (n = 29) had a mean admission age in months (SD); 3.7 (5.7) versus 59.3 (17.7). Majority (79.6%) Group 1 versus only 20.7% Group 2 (P < 0.001) had no underlying disease. 97.4% versus 93.1% were admitted with respiratory distress and most had bronchiolitis: 88.8% versus 55.2% (P < 0.001), decreased oxygen saturation: 77% versus 75.9% and inability to maintain intake: 75.7% versus 44.8% (P = 0.01). Fifty percent versus 41.3% required mechanical ventilation and 81.6% versus 69.0% received antibiotics. Median days (range) in PICU was 5 (1–73) versus 2 (1–36). Median length of hospital stay days (range) was 9 (1–113) versus 7 (1–64) (P = 0.05). The overall RSV positive, PICU hospitalization rate was 5.7%.

There were few complications: respiratory (2.8%); concurrent bacterial sepsis (5.5%); and 1 death. 31% Group 1 versus 44% Group 2 (P < 0.01) had an adult admission age in months (SD); 4.4 (6.8) versus 152 (4.1). Only 3.3% children had received prophylaxis. 1 death was attributed to RSV infection. 16% Group 1 versus 44% Group 2 (P < 0.01) had a fever. Fifty percent versus 41.3% required mechanical ventilation and 81.6% versus 69.0% received antibiotics. Median days (range) in PICU was 5 (1–73) versus 2 (1–36). Median length of hospital stay days (range) was 9 (1–113) versus 7 (1–64) (P = 0.05). The overall RSV positive, PICU hospitalization rate was 5.7%.

CONCLUSIONS: There were differences in demographics and complications. The incidence of palivizumab use was low. The PICU hospitalization rate was lower than the provincial rate for children admitted to the PICU. More children were admitted to the PICU with RSV than other age groups. Future research should focus on improving palivizumab access and increasing the number of children that receive the prophylaxis.