Hospitalizations for Respiratory Syncytial Virus bronchiolitis in the palivizumab era

L. Oz Alcalay¹, S. Weisman demri¹, A. Lowenthal², S. Ashkenazi¹, G. Livni¹

¹Department of Pediatrics A and ²Division of Pediatric Cardiology, Schneider Children Medical Center of Israel, Petach Tikva, Israel

Introduction

Respiratory Syncytial Virus (RSV), the most common cause of bronchiolitis in infants, results in significant rate of hospitalization, mainly in those with predisposing medical conditions. Administration of palivizumab reduces morbidity in this population and during the last 15 years has been administered routinely in Israel between November and March for patients at risk. Albeit, there are conflicting data concerning both effectiveness of the vaccination and who should receive it.

Objective

Characterization of RSV bronchiolitis severity in hospitalized infants in the era of palivizumab prophylaxis

Results

During this period 14,033 children were hospitalized in the pediatric departments A,B,C, of whom 427 infants (3%) were admitted with RSV bronchiolitis. The average duration of hospitalization was 5.5 days. Amongst group 1 the average hospitalization was 9.1 days versus 6.7 days in group 2 ($p=0.014$); five percent of the admitted infants needed intensive care treatment versus 12.5% in group 2 ($p<0.001$). Five of the admissions were prior to the vaccination season and the number of admissions in October was 4-fold higher than in March ($p<0.001$).

Conclusion

The number of hospitalizations in October was significantly higher than that in March, similar to the trend observed in previous years, questioning the current timing of November 1st for the first vaccine dose. Significant morbidity was observed in those infants with risk factors that are not eligible for vaccination, raising the need to re-consider vaccine candidates. Guidelines should be certainly dictated by local epidemiology.

Method

Retrospective chart review of infants hospitalized in a tertiary children hospital with RSV confirmed bronchiolitis between 2015 and 2016.

Four groups were delineated:

1. Those with an indication for vaccination who were not vaccinated.
2. Infants with risk factors that were not vaccine-eligible.
3. Healthy infants.
4. Vaccine-eligible infants who were vaccinated.

- Vaccination indicated but NOT given on time
- Risk factors w/o Vaccination indication
- No underlying disease
- Vaccination indicated and given on time
- All RSV patients