CLINICAL IMPACT OF INTRODUCING VENTILATION WITH HIGH FLOW OXYGEN IN THE TREATMENT OF BRONCHIOLITIS IN A PAEDIATRIC WARD

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Objective: To analyze the safety and efficacy of high-flow oxygen therapy for treatment of moderate to severe bronchiolitis in children admitted to the pediatric hospital wards.

Methods: We performed a prospective observational study of children < 18 months of age with bronchiolitis admitted to the pediatric ward of a tertiary-care teaching hospital. Children were treated with high-flow ventilation system (Fisher & Paykel). Clinical and cardio-respiratory parameters were evaluated every hour for the duration of therapy.

Results: We included 32 patients, with a median age of 2 months (rank 0.4-10 months) during the 2011-12 respiratory season, and November and December of 2012. 71% were RSV positive. Indications for high-flow therapy included: progressive respiratory distress (Wood-Downes ≥ 8) (87.5%), apnea (12.5%) Median duration of therapy was 4 days (rank 3-7 days), with a median of 10 days of total hospitalization (rank 8-12 days). High flow therapy was associated with a significant decrease of cardio-respiratory parameters: heart rate, respiratory rate, which resulted in significant improvement of the Wood-Downes Score (from 10.5±1.37 to 3±0.77, p=0.001). No adverse effects were observed. Eight patients (25%) were admitted to Pediatric Intensive Care Unit (PICU), which represents a 75% reduction of PICU admissions compared with historic data of previous years.

Conclusions: High-flow ventilation therapy achieved a significant improvement in heart rate, respiratory rate and scale of severity in patients with bronchiolitis. This novel therapeutic strategy allows safe management of bronchiolitis patients in the regular ward, reducing admissions to the PICU.