POSTER PRESENTATION

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High flow nasal cannula oxygen therapy in immunocompromised patients with acute hypoxemic respiratory failure

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Introduction

In the early 2000's, two randomized controlled trials have shown that non-invasive ventilation (NIV) could decrease mortality of immunocompromised patients admitted to ICU for acute respiratory failure (ARF) as compared to standard oxygen therapy (O₂) [1,2]. However, the benefits of NIV in immunocompetent patients with ARF failure are debated. High flow nasal cannula oxygen therapy (High-Flow Oxygen) may offer an alternative in hypoxemic patients. We recently found in a randomized controlled trial including 310 patients with ARF that High-Flow Oxygen decreased mortality as compared to NIV [3]. Immunocompromised patients could be also included in this study, except those with profound neutropenia. Therefore, we assessed the benefits of High-Flow Oxygen or NIV in this subgroup of patients.

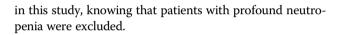
Objectives

To compare intubation and mortality rates in the subset of immunocompromised patients admitted to ICU for ARF.

Methods

We performed a subgroup analysis of the FLORALI study. This study included all patients with non-hypercapnic (PaCO₂ \leq 45 mm Hg) ARF excluding patients with cardiogenic pulmonary edema and those with underlying chronic lung disease. Patients were assigned to three groups according to treatment: High-Flow Oxygen, O₂ or NIV. The primary outcome was the intubation rate and secondary outcome included 90-day mortality. We focused on the subset of immunocompromised patients included

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Results

Among the 310 patients with ARF, 82 (26%) were immunocompromised including 26 patients in the High-Flow Oxygen group, 30 in the O₂ group, and 26 in the NIV group. Intubation rates were 31%, 43% and 55% in the High-Flow Oxygen, O₂ and NIV groups, respectively (p = 0.04). The 90-day mortality rates were 15%, 27% and 46% in the High-Flow Oxygen, O₂ and NIV groups (p = 0.046). Ventilator-free days at day 28 were 26 ± 6, 23 ± 10 and 14 ± 13 days in the High-Flow Oxygen, O₂ and NIV groups, respectively (p < 0.0001).

Conclusions

In immunocompromised patients admitted to ICU for acute hypoxemic respiratory failure, High-Flow Oxygen was associated with lower intubation and mortality rates, and a reduced duration of invasive mechanical ventilation as compared to O_2 or NIV.

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