

A Descriptive Study of Extracorporeal Membrane Oxygenation in Patients with Influenza A (H1N1) Associated Acute Respiratory Distress Syndrome

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A Descriptive Study of Extracorporeal Membrane Oxygenation in Patients with Influenza A (H1N1) Associated Acute Respiratory Distress Syndrome

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Introduction

Veno-Venous Extracorporeal Membrane Oxygenation (V-V ECMO) is a treatment reserved for severely hypoxic patients despite optimal treatment with mechanical ventilation (MV). The role of V-V ECMO continues to evolve and is currently being utilized in patients with respiratory failure from influenza A (H1N1) who have failed conventional MV. Here we describe a cohort of patients requiring V-V ECMO for H1N1 induced severe adult respiratory distress syndrome (ARDS) compared to those with ARDS from other causes. Our goal is to report the differences in intensive care unit (ICU) length of stay (LOS), hospital LOS, length of time on ECMO and mortality in patients with H1N1 on ECMO compared to patients on ECMO due to alternative diseases.

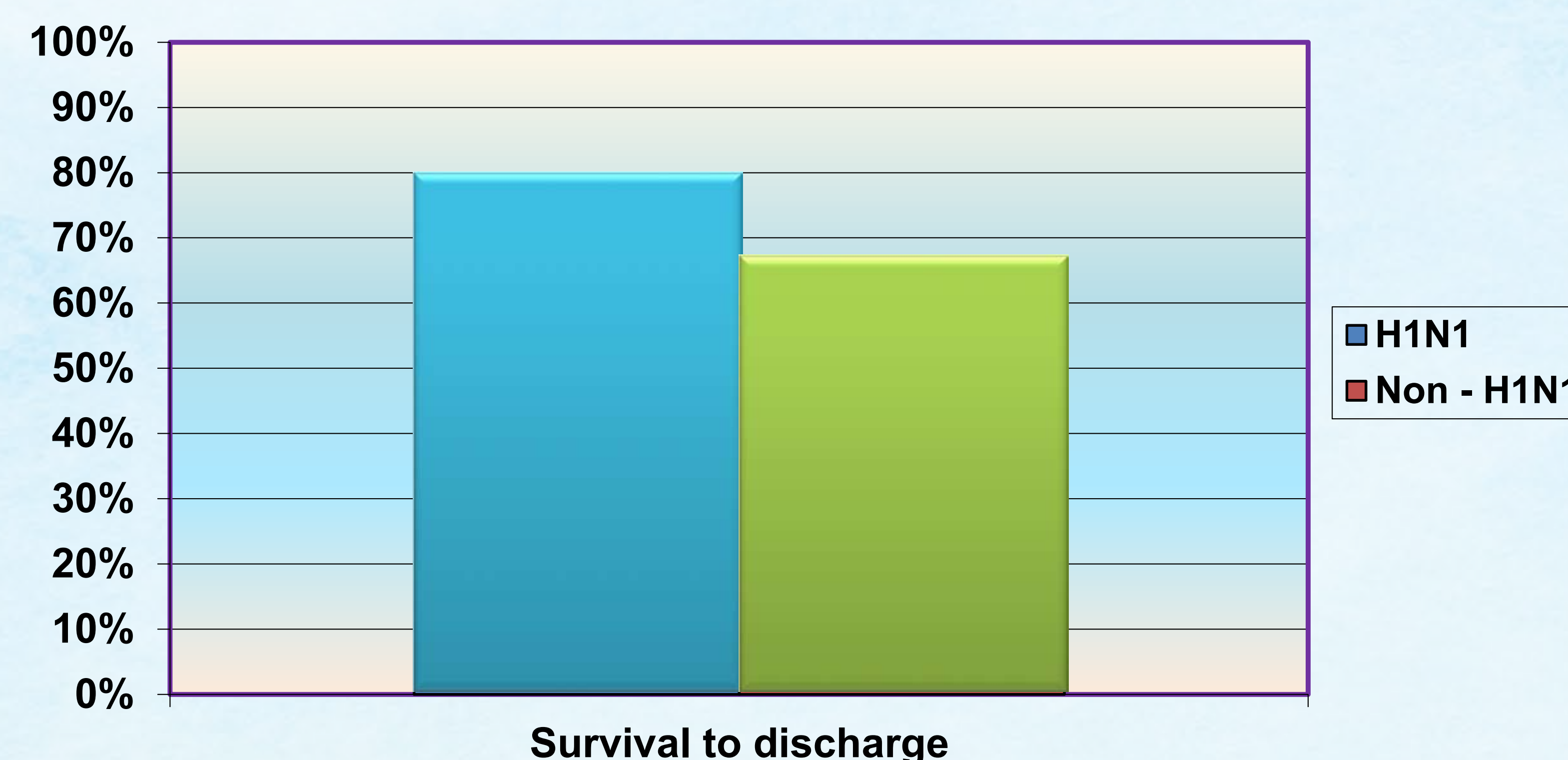
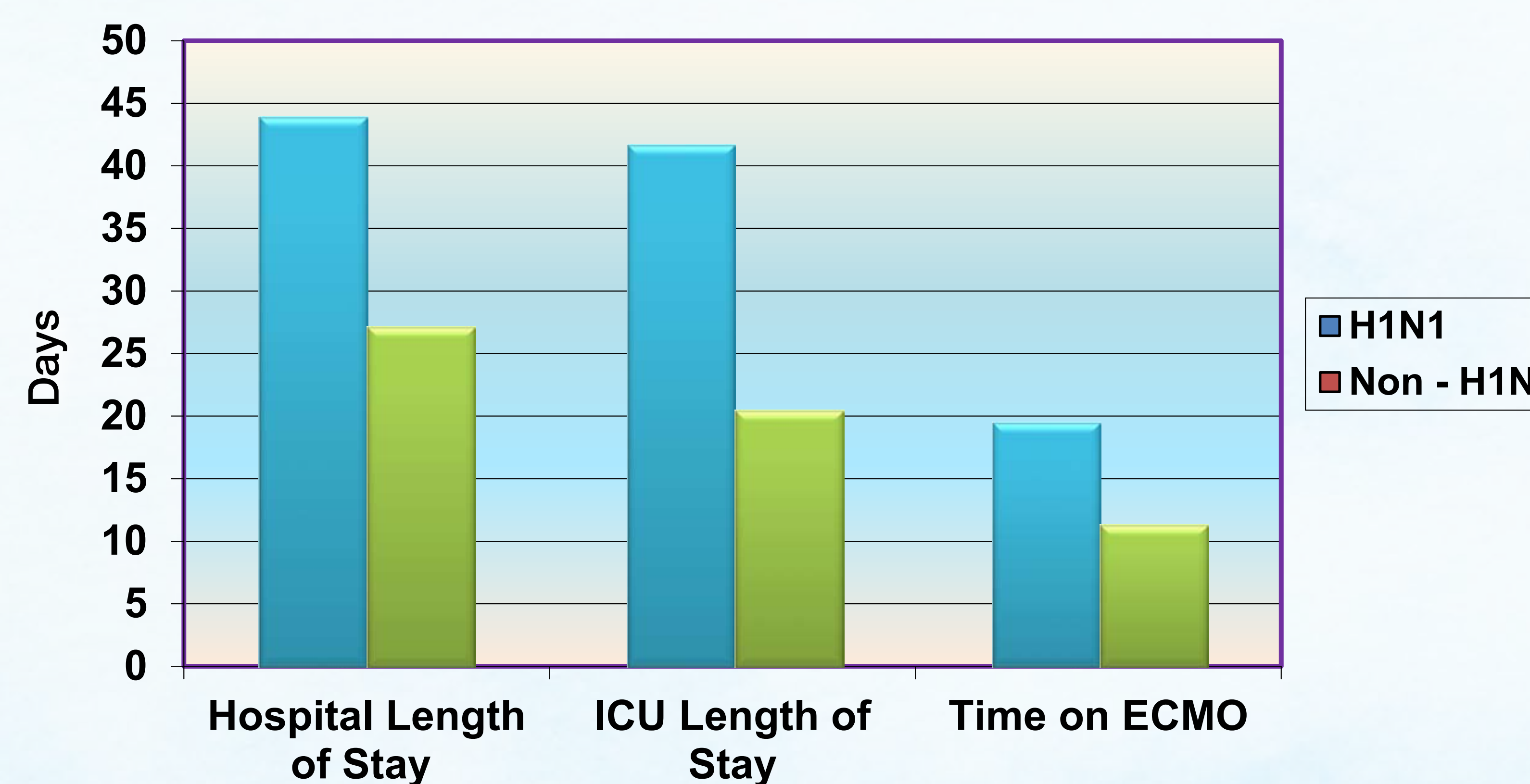
Methods

This is a single center descriptive study performed at the Lehigh Valley Health Network in Allentown, PA. Patients with severe ARDS requiring V-V ECMO between January 1, 2013 and March 31, 2014 were included. The institutional review board approved the study. The main outcomes were mortality, ICU LOS and hospital LOS between patients with H1N1 and those with ARDS from a different etiology.

Results

Thirty-six patients were included and 15 tested positive for H1N1. Median age was 50 years old and 16 were male. Overall ICU LOS was 29 days and survival to discharge was 72%. Patients undergoing V-V ECMO for H1N1 had a longer hospital LOS compared to those without Influenza (43.9 vs. 27.0 days) and longer ICU LOS (41.6 vs. 20.4 days) and longer time on ECMO (19.3 vs. 11.0 days). Survival to hospital discharge was 80% in patients with H1N1 vs. 67% for those with other conditions.

Results



Conclusions

We have observed that patients on V-V ECMO for H1N1 have a longer hospital and ICU LOS and longer time on ECMO than patients on V-V ECMO for reasons other than H1N1. However, these patients have similar survival rates compared to the non-H1N1 ECMO patients. Therefore, when ECMO is used as a treatment for H1N1 patients, therapeutic nihilism must be avoided as these patients may still survive despite increased time on ECMO, increased LOS in the ICU and increased LOS in the hospital.

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