A RETROSPECTIVE COMPARISON OF HELICOPTER TRANSPORT VERSUS GROUND TRANSPORT IN PATIENTS WITH SEVERE SEPSIS AND SEPTIC SHOCK.

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Abstract

BACKGROUND:

Helicopter emergency medical services (HEMS) extend the reach of a tertiary care center significantly. However, its role in septic patients is unclear. Our study was performed to clarify the role of HEMS in severe sepsis and septic shock.

METHODS:

This is a single-center retrospective cohort study. This study was performed at Mayo Clinic, Rochester, MN, in years 2007-2009. This study included a total of 181 consecutive adult patients admitted to the medical intensive care unit meeting criteria for severe sepsis or septic shock within 24 h of admission and transported from an acute care facility by a helicopter or ground ambulance. The primary predictive variable was the mode of transport. Multiple demographic, clinical, and treatment variables were collected and analyzed with univariate analysis followed by multivariate analysis.

RESULTS:

The patients transported by HEMS had a significantly faster median transport time (1.3 versus 1.7 h, $p < 0.01$), faster time to meeting criteria for severe sepsis or septic shock (1.2 versus 2.9 h, $p < 0.01$), a higher SOFA score (9 versus 7, $p < 0.01$), higher incidence of acute respiratory distress syndrome (38 versus 18 %, $p = 0.013$), higher need for invasive mechanical ventilation (60 versus 41 % $p = 0.014$), higher ICU mortality (13.3 versus 4.1 %, $p = 0.024$), and an increased hospital mortality (17 versus 30 %, $p = 0.04$) when compared to those transported by ground. Distance traveled was not an independent predictor of hospital mortality on multivariate analysis.

CONCLUSIONS:

HEMS transport is associated with faster transport time, carries sicker patients, and is associated with higher hospital mortality compared with ground ambulance services for patients with severe sepsis or septic shock.

PMID:
27270585
PMCID:
PMC4894858
DOI:
10.1186/s12245-016-0115-6

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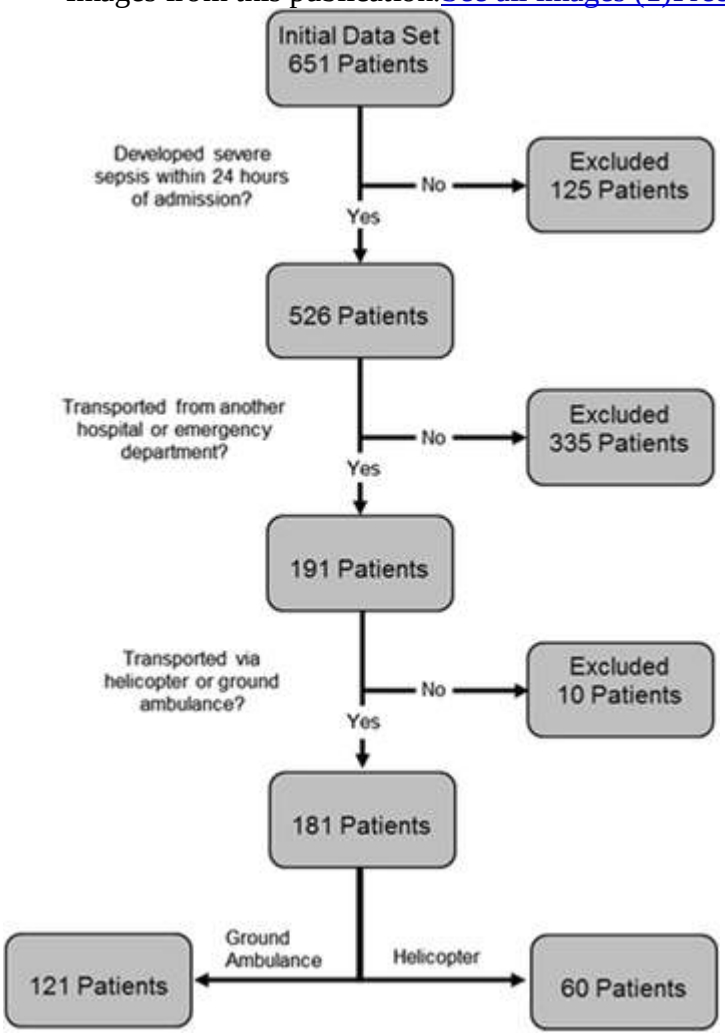

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