

Using of Oral Midodrine in Weaning of Vasoactive Infusions in Patients Admitted with Septic Shock

Thesis

**Submitted for Partial Fulfillment of
Master Degree in Critical Care Medicine**

Presented by

Abdulahad Mohammed Ali
M.B.B.Ch – Taiz University, Yemen

Under Supervision of

Professor. Dr. Ahmed Hussien Alsherif

Professor of Critical Care Medicine
Faculty of Medicine – Cairo University

Professor. Dr. Karim Salem Mashhoor

Assistant Professor of Critical Care Medicine
Faculty of Medicine – Cairo University

Dr. Mohammed Amin Fakher

Lecturer of Critical Care Medicine
Faculty of Medicine – Cairo University

Faculty of Medicine Cairo University 2019

Abstract

Background: Patients admitted to intensive care units (ICU) are often treated with intravenous (IV) vasopressors. Persistent hypotension and dependence on IV vasopressors in otherwise resuscitated patients lead to delay in discharge from ICU. Midodrine is an oral alpha-1 adrenergic agonist approved for treatment of symptomatic orthostatic hypotension. The use of midodrine as a vasopressor sparing agent has steadily increased in the ICU despite limited evidence for this off label use.

Objectives: To evaluate the role of midodrine in weaning of vasopressor infusions in patient admitted to ICU with septic shock, and to evaluate of the effect of midodrine on outcome of septic patients regarding length of ICU stay and ICU mortality.

Patients and Methods: This study was a randomized controlled intervention trial, being conducted in the critical care department, Kasr El Ainy hospital, Cairo University, Cairo, Egypt. We targeted 60 patients. Adult patients aged ≥ 18 years, admitted to the ICU with diagnosis of septic shock and who were on IV vasopressors for at least 24 h were considered for recruitment. Participants were randomized to either receive midodrine, 10 mg three times a day, or not in addition to standard care. The primary outcome is the time (hours) from initiation to discontinuation of IV vasopressors and duration of weaning. Secondary outcomes include ICU LOS (days), ICU mortality rate.

Results: The IV vasopressor duration (hours) and IV vasopressor weaning duration (hours) were lower in the midodrine group when compared to IV vasopressor only group but the difference is statistically insignificant (139.03 ± 46.95 VS 141.90 ± 79.77 and 62.37 ± 14.94 VS 74.20 ± 36.78 respectively). MAP was significantly improved in midodrine group from 84.50 mmHg at the time of midodrine initiation to 88.03 mmHg after 24hours of midodrine initiation ($p=0.04$) No differences in secondary outcomes, including ICU length of stay and ICU mortality, were observed.

Conclusions: Use of midodrine doesn't reduce duration of IV vasopressor infusion and weaning during the recovery phase of septic shock and it had no impact on overall survival, length of ICU stay and ICU mortality.

Keywords: Septic shock, intensive care unit, hypotension, intravenous vasopressors, midodrine.