HYPERTONIC SALINE VERSUS ISOTONIC SALINE IN SEPTIC SHOCK (EFFECTS ON MORBIDITY, MORTALITY & CLINICAL OUTCOME)

Thesis

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Presented by

Sayed Sobhy Ramadan

M.B.B.CH. Faculty of medicine-Cairo University Under Supervision Of

Prof. Dr. Mohammed Sherif Mokhtar

Parent and Professor of Critical Care Medicine Faculty of Medicine Cairo University

Dr. Hassan Samir Effat

Lecturer of Critical Care Medicine Faculty of Medicine Cairo University

Dr. Moataz Mohammed Ibrahim

Lecturer of Critical Care Medicine Faculty of Medicine Cairo University

> Faculty of Medicine Cairo University 2015

<u>Abstract</u>

Objectives: to investigate the therapeutic value of 3% hypertonic saline boluses in septic shock regarding the clinical course and final outcome, compared to routine resuscitation fluids.

Design: A prospective, randomized, single center study.

Setting: medical/surgical ICU (Ahmed Maher Teaching Hospital).

Patients: 40 critically ill patients admitted to ICU with septic shock divided into two groups: Group I received routine resuscitation fluids, Group II received 2 boluses of 3% HTS on admission &12 hours later (4ml/kg at a rate <1ml/kg/min.) in addition to routine resuscitation fluids.

Measurements: CRP concentrations (semi-quantitative measured by ELISA) were measured day 0, 1, 2 &7, Echo parameters as EF,FS&CO (day 0,1,2&7) to assess changes in myocardial contractility. APACHE II score was calculated on admission,MODS&SOFA scores calculated daily for 7 days.Survival and clinical outcome were recorded for all patients.

Results: Hypertonic saline 3% could be used as an adjuvant resuscitation therapy with concurrent routine resuscitation protocols in septic shock as it has rapid and prolonged effects in improvement hemo-dynamics. It has significant anti-inflammatory effects as measured by significant decline of CRP in septic shock, Improvement of all cardiac functions and benign side effects as well.

Conclusion: Hypertonic saline 3% has significant improvement in hemodynamics; inflammatory mediators; myocardial contractility; clinical course (ICU stay; mortality; need for MV, inotropes & vasopressors; progression of complications but this improvement is transient.

Key words: Septic shock; Echo findings; CRP; APACHE II score; SOFA &MODS scores; Clinical outcome.