

**VALIDITY OF JUGULAR VEIN COLLAPSIBILITY
INDEX IN PREDICTING FLUID
RESPONSIVENESS IN SEPTIC PATIENTS**

Thesis

*Submitted for the partial fulfillment of master degree in critical care
medicine*

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2019

Abstract

Objectives: The purpose of the study was to evaluate the validity of using internal jugular vein (IJV) diameter and collapsibility as a reliable index of fluid responsiveness in patients with sepsis.

Methods: Hemodynamic data of patients with sepsis were collected before and after IV fluid bolus (7ml/kg) coupled with transthoracic echo to evaluate stroke volume variation before and after fluid bolus and ultrasound evaluation of IJV diameter and collapsibility (ratio of the difference between IJV maximal antero-posterior diameter and minimum diameter to minimum diameter x100).

Patients were retrospectively divided into two groups; fluid responders (R), if CI increase of more than or equal to 15% after a 7ml/kg crystalloid infusion, and non-responders (NR). We compared differences in measured variables between R and NR groups and calculated receiver-operator-characteristic (ROC) curves of optimal IJV diameter and collapsibility and change in stroke volume sensitivity and specificity to predicting R.

Results: We enrolled 50 patients, of these, 32 were fluid responders. Responders presented higher IJV collapsibility before and after fluid challenge than NR ($P < 0.001$). An IJV collapsibility more than 39.5% prior to volume challenge had 78% sensitivity and 100% specificity to predict R.

Conclusion: Ultrasound evaluation of IJV collapsibility is an easily acquired non-invasive parameter of fluid responsiveness with accepted accuracy in septic patients.

Key words:

(Sepsis, Septic Shock, Fluid Responsiveness, Internal Jugular Vein Collapsibility)