

Assessment of The Role & Predictive Value of Extravascular Lung Water, Abdominal Hypertension, Capillary Leak & Fluid Balance in Critically Ill Mechanically Ventilated patients & Their Correlation to Outcome

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Abstract

Background: administration of fluids in sepsis is lifesaving, positive fluid balance after hemodynamic stabilization may impact organ function and negatively influence important outcomes in critically ill patients.

OBJECTIVE:

Estimation of extravasation parameters which include intra-abdominal hypertension (IAH), Capillary leak index (CLI) and also thoracic fluid content (TFC) in critically ill mechanically ventilated patient

Evaluate prognostic value of global increased permeability syndrome variables on mortality outcome

Patients and METHODS:

Thirty patients with various degrees with sepsis ,(20)males – (10) females , mean age 56.7±8.7 years

Our study was observational randomized prospective study in which our patients were divided into 2 groups (each group containing 15 patients) according to cumulative positive fluid balance.

Group A (conservative): Cumulative Fluid balance (+ve 6 to 8 L)

Group B (liberal): Cumulative Fluid balance (more than 8L)

RESULTS:

-Extra vacation parameters including (TFC, CLI, IAH) showing statistically significant between 2 groups of patients .

-According to ROC curve TFC at day 3 (36 1/ kOhm) had significant ability to predict mortality with P value (0.003),, AUC (0.852), sensitivity 71%, specificity 89%.

-According to ROC curve CLI at day 5 (28.9 %) had significant ability to predict mortality with P value 0.033, AUC (0.749), sensitivity 76%, specificity 67%.

-Kaplan Meier curve shows survival among patients with conservative fluid strategy versus those with liberal strategy. Mortality was in conservative strategy group 33.3% (5/15) and in those with liberal fluid strategy 83.3% (13/15), (P value 0.008).

CONCLUSION:

- Fluid resuscitation is a key intervention in treatment of sepsis.
- Extravasation parameters were obtained using non-invasive tests that could be helpful in guiding fluid management and prediction of mortality.
- Clinicians should be aware of the potential harm due to the excessive administration of Intravenous Fluids (IVFs) to patients with septic shock

Key words

Extra vascular lung water

Abdominal Hypertension

Capillary leak

Fluid balance

Critically ill

Mechanically ventilation

الكلمات الدالة

مياة الرئة خارج الاوعية

ارتفاع ضغط البطن

تسرب الشعيرات

توازن السوائل

مرضى الحالات الحرجة

جهاز التنفس الصناعى