Title
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Journal
Critical Care Medicine, 44(12)

ISSN
0090-3493

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Publication Date
2016-12-01

DOI
10.1097/01.ccm.0000509260.94851.92

Peer reviewed

PPI from January 2014 to December 2015. Secondary infections were identified by medical coding and confirmed via chart review. Patients that received these agents prior to admission or received both classes during admission were excluded. A total of 13,720 patients received SUP during the study period, split nearly even between groups. To approximate a total acid suppression naïve population, 1,000 of these patients were evaluated for prior to admission use and the percentages were extrapolated to represent a total population for risk analysis. The review estimated that 60% of patients were not on a PPI and 92% of patients were not on a H2RA prior to admission, leaving 4,123 and 6,294 patients per respective group. **Results:** A total of 79 patients with secondary infections were included in the analysis (46 PPI and 33 H2RA). Baseline characteristics were similar between groups, including antibiotic exposure in CDI patients. Secondary CDI occurred in 21 PPI and 13 H2RA patients. Secondary pneumonia occurred in 29 PPI and 21 H2RA patients. The risk of secondary CDI (RR 1.56; 95 CI, 1.10-1.96) and pneumonia (RR 1.47; 95 CI, 1.09-1.81) was greater in the PPI group. **Conclusions:** Use of a PPI may be associated with a greater risk of CDI and pneumonia when compared with a H2RA in patients previously naïve to acid suppression. These findings support the use of a H2RA over a PPI for SUP in absence of other deciding factors.

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PROGNOSTIC VALUE OF BRAIN NATRIURETIC PEPTIDE AND CARDIAC TROPONIN I FOR SEVERE ACUTE PANCREATITIS

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Learning Objectives: New biomarkers are required for early identification for severe acute pancreatitis prognosis. We aim to testify if serum level of Brain natriuretic peptide (BNP) and cardiac troponin I (cTNI) in the early stage of SAP could predict the outcome of SAP **Methods:** We conducted an clinical retrospective study. 163 severe acute pancreatitis (SAP) patients were diagnosed and involved according to 2012 Atlanta guideline. They were further subgrouped into survival (n=155) and deceased (n=8) group according to their outcome. The serum level of BNP and cTNI were collected at the early stage of pancreatitis (1, 3, 7 and 14 days after start of pancreatitis). The other pancreatitis prognostic biomarkers including Sequential organs failure assessment (SOFA) score, serum level of procalcitonin (PCT) and C-reactive protein (CRP) were also collected at the same time. **Results:** The serum level of BNP and cTNI were significantly higher in survival group compared to deceased group at the early stage of pancreatitis. On the first day after pancreatitis, serum level of BNP and cTNI were positively correlated with SOFA score, serum level of PCT and CRP. The ROC curve demonstrated the prognostic ability of BNP (sensitivity = 1, specificity = 0.91, area under the curve [AUC] = 0.96) and cTNI (sensitivity = 1, specificity = 0.95, AUC = 0.98), which shows no significant difference with the prognostic ability of SOFA score (sensitivity = 1, specificity = 0.97, AUC = 0.99) and PCT (sensitivity = 0.88, specificity = 0.83, AUC = 0.91) but significantly higher than the one of CRP (sensitivity = 1, specificity = 0.69, AUC = 0.85). **Conclusions:** The alteration of NT-proBNP and cTnI levels strongly predicated the prognosis in patients With SAP. Serum level of BNP and cTNI might be used as efficient biomarkers for prognostic utility of SAP

Research Snapshot Theater: GI/Hepatic II

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PULSE WAVEFORM ANALYSIS VERSUS PULMONARY ARTERY CATHETERIZATION IN ORTHOTOPIC LIVER TRANSPLANTATION

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Learning Objectives: Hemodynamic monitoring in ESLD is controversial given difficulties in assessing volume responsiveness (VR) and cardiac function (CFx). Pulse waveform analysis (PWA) may supplant pulmonary artery catheterization (PAC) as a non-invasive modality. We hypothesize that PWA is equivalent to PAC for assessing VR and CFx post-orthotopic liver transplantation (OLT). Our specific aims were to determine if post-OLT PWA and PAC data are concordant for measures of VR and CFx, vary pre-and-post extubation, and impact cardiovascular management decisions. **Methods:** Between 2014-2015, (N=49) simultaneous PWA and PAC data (303 paired measurements) were obtained. Bland-Altman analysis determined variability and bias for CFx (cardiac index, CI), VR (stroke volume index, SVI), and vascular resistance (systemic vascular resistance index, SVRI). Reference ranges: CI 2.8-4.2 L/min/m^2, SVI 33-47 ml/m^2, SVRI 1200-2500 dynes/m^2/cm^5. Data were concordant if measurements agreed. For discordant data, cardiovascular management decisions (inotrope/pressor) were determined. Patients on post-OLT vasopressors, with vascular disease and/or ventilated < 8 ml/kg IBW. **Results:** Mean difference (ventilated) was 0.06 [-0.25,0.37] L/min/m^2, 1.34 [-1.93,4.6] ml/m^2, 736 [584,889] dynes/m^2/cm^5, and (extubated) was 0.17 [-0.2,0.54] L/min/m^2, 2.67 [-2.19,7.52] ml/m^2, 660 [416,904] dynes/m^2/cm^5 for CI, SVI, and SVRI respectively. 98.6%, 97.1%, 98% of ventilated patient data and 95.1%, 95.1%, 96.7% of extubated patient data for CI, SVI, and SVRI respectively, fell within 95% of these limits. For clinical interventions, PAC led to 5 unnecessary interventions whereas PWA led to 3. **Conclusions:** Comparing PAC and PWA, mean differences for CI and SVI fall within acceptable ranges of bias with high degree of concordance whereas SVRI data appears to have proportional variability outside of normal ranges. PWA may be used as an alternative to PAC post-OLT to assess VR and CFx.

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THE IMPACT OF INTRACRANIAL PRESSURE MONITOR USE ON OUTCOMES IN CHILDREN WITH HEPATIC ENCEPHALOPATHY

Israel Temple, Ali Zarrinpar, Robert Venick, Myke Federman

Learning Objectives: The use of intracranial pressure (ICP) monitoring in the management of hepatic encephalopathy (HE) in pediatric acute liver failure (ALF) remains controversial with scant evidence to recommend for or against its use. This study is the first to compare outcomes in children in whom ICP was monitored during treatment versus those who were managed without direct measure of ICP. Hypothesis: the use of ICP monitoring improves survival to transplant by allowing for more precise and guided management of ICP, but has little impact on mortality after transplant. **Methods:** Retrospective data was collected on patients <21 years of age at the time of diagnosis admitted to our center from January 2000 through December 2015. Patients were included with the diagnosis of ALF or hepatitis, and the diagnosis of HE. Exclusion criteria were: 1) preexisting liver disease 2) grade 0-II HE 3) encephalopathy from another source 4) patients not transplant candidates. Patients were grouped into ICP monitored and non-ICP monitored. Primary outcomes were survival to transplant and survival at 30 days. Patient variables collected for the purpose of propensity scoring included INR, bilirubin, AST, ALT, creatinine, pH, PaCO2, and etiology of ALF. Secondary outcomes included neurological outcomes, length of stay, ventilator days, organ dysfunction, and the use of blood products and vasoactive medications. **Results:** From 2006-2015, 866 children were screened and 67 were included in the analysis. 18 (27%) had ICP monitors placed and 49 (73%) did not. Age, sex, racial distribution, and etiology of ALF were similar between the two groups. Patients with ICP monitors placed had higher rate of successful transplantation (72% vs 59%), lower rate of spontaneous resolution of ALF (11% vs 25%), and lower survival at 30 days (66% vs 83%) when compared to patients without ICP monitoring. Mortality without transplant was similar between the groups (17% vs 16%). **Conclusions:** This single center cohort represents the largest report describing the use and outcomes related to ICP management in pediatric ALF. More detailed analysis is ongoing.