Abstracts from Other Journals

Edited by: Gehani A.A., Hammoudeh M.
Hamad Medical Corporation, Doha, Qatar

Published in JAMA, 2011; 306(20): 2239-2247; doi: 10.1001/jama; 2011; 1701

Association Between Valvular Surgery and Mortality Among Patients with Infective Endocarditis Complicated by Heart Failure

Todd Kiefer, Lawrence Park, Christophe Tribouilloy, Claudia Cortes, Roberta Casillo

Abstract:
Context: Heart failure (HF) is the most common complication of infective endocarditis. However, clinical characteristics of HF in patients with infective endocarditis, use of surgical therapy, and their associations with patient outcome are not well described.

Objectives: To determine the clinical, echocardiographic, and microbiological variables associated with HF in patients with definite infective endocarditis and to examine variables independently associated with in-hospital and 1-year mortality for patients with infective endocarditis and HF, including the use and association of surgery with outcome.

Design, Setting, and Patients: The International Collaboration on Endocarditis–Prospective Cohort Study, a prospective, multicenter study enrolling 4166 patients with definite native- or prosthetic-valve infective endocarditis from 61 centers in 28 countries between June 2000 and December 2006.

Main Outcome Measures: In-hospital and 1-year mortality.

Results: Of 4075 patients with infective endocarditis and known HF status enrolled, 1359 (33.4% [95% CI, 31.9%-34.8%]) had HF, and 906 (66.7% [95% CI, 64.2%-69.2%]) were classified as having New York Heart Association class III or IV symptom status. Within the subset with HF, 839 (61.7% [95% CI, 59.2%-64.3%]) underwent valvular surgery during the index hospitalization. In-hospital mortality was 29.7% (95% CI, 27.2%-32.1%) for the entire HF cohort, with lower mortality observed in patients undergoing valvular surgery compared with medical therapy alone (20.6% [95% CI, 17.9%-23.4%] vs 44.8% [95% CI, 40.4%-49.0%], respectively, P < .001). One-year mortality was 29.1% (95% CI, 26.0%-32.2%) in patients undergoing valvular surgery vs 58.4% (95% CI, 54.1%-62.6%) in those not undergoing surgery (P < .001). Cox proportional hazards modeling with propensity score adjustment for surgery showed that advanced age, diabetes mellitus, health care–associated infection, causative microorganism (Staphylococcus aureus or fungi), severe HF (New York Heart Association class III or IV), stroke, and paravalvular complications were independently associated with 1-year mortality, whereas valvular surgery during the initial hospitalization was associated with lower mortality.

Conclusion: In this cohort of patients with infective endocarditis complicated by HF, severity of HF was strongly associated with surgical therapy and subsequent mortality, whereas valvular surgery was associated with lower in-hospital and 1-year mortality.

Keywords: Cardiac Surgical Procedure, Cross Infection, Endocarditis, Bacterial, Fungal Infections, Heart Failure, Heart Valves, Iatrogenic Disease, Mortality, Patient Safety, Risk Management

Published in The Lancet, Volume 379, Issue 9811, Pages 130-135, 14 January 2012

Chemotherapy and Human Chorionic Gonadotropin Concentrations 6 months After Uterine Evacuation of Molar Pregnancy: A retrospective cohort study

Roshan Agarwal, Suliana Teoh, Delia Short, Richard Harvey, Philip M Savage, Prof Michael J Seckl

Abstract:
Indications for chemotherapy in gestational trophoblastic disease include raised human chorionic gonadotropin (hCG) concentrations 6 months after uterine evacuation of hydatidiform mole, even when values are falling. We aimed to establish whether chemotherapy is always necessary in these patients.

Methods:
We retrospectively identified women registered between January, 1993, and May, 2008, at Charing Cross Hospital, London, UK, who had persistently high hCG concentrations 6 months after evacuation of hydatidiform mole. Rates of hCG normalisation, relapse, and death were assessed in patients continued under surveillance and those who received chemotherapy after 6 months. We postulated that a surveillance policy would be clinically acceptable if hCG values returned to normal in 75% of patients or more.

Address for correspondence:
Please send your abstracts by e-mail
E-mail: qmj@hmc.org.qa
Abstracts from Other Journals


Serum Potassium Levels and Mortality in Acute Myocardial Infarction

Abhinav Goyal, John A. Spertus, Kensey Gosch, Lakshmi Venkitachalam, Philip G. Jones, Geert Van den Bergh, Mikhail Kosiborod

Abstract:

Context: Clinical practice guidelines recommend maintaining serum potassium levels between 4.0 and 5.0 mEq/L in patients with acute myocardial infarction (AMI). These guidelines are based on small studies that associated low potassium levels with ventricular arrhythmias in the pre-B-blocker and pre-reperfusion era. Current studies examining the relationship between potassium levels and mortality in AMI patients are lacking.

Objective: To determine the relationship between serum potassium levels and in-hospital mortality in AMI patients in the era of B-blocker and reperfusion therapy.

Design, Setting, and Patients: Retrospective cohort study using the Cerner Health Facts database, which included 38,689 patients with biomarker-confirmed AMI, admitted to 67 US hospitals between January 1, 2000, and December 31, 2008. All patients had in-hospital serum potassium measurements and were categorized by mean postadmission serum potassium level (<3.0, 3.0-<3.5, 3.5-<4.0, 4.0-<4.5, 4.5-<5.0, 5.0-<5.5, and ≥5.5 mEq/L). Hierarchical logistic regression was used to determine the association between potassium levels and outcomes after adjusting for patient- and hospital-level factors.

Main Outcome Measures: All-cause in-hospital mortality and the composite of ventricular fibrillation or cardiac arrest.

Results: There was a U-shaped relationship between mean postadmission serum potassium level and in-hospital mortality that persisted after multivariable adjustment. Compared with the reference group of 3.5 to less than 4.0 mEq/L (mortality rate, 4.8%; 95% CI, 4.4%-5.2%), mortality was comparable for mean postadmission potassium of 4.0 to less than 4.5 mEq/L (5.0%; 95% CI, 4.7%-5.3%), multivariable-adjusted odds ratio (OR), 1.19 (95% CI, 1.04-1.36). Mortality was twice as great for potassium of 4.5 to less than 5.0 mEq/L (9.0%; 95% CI, 9.1%-10.9%; multivariable-adjusted OR, 1.95; 95% CI, 1.68-2.36), and even greater for higher potassium strata. Similarly, mortality rates were higher for potassium levels of less than 3.5 mEq/L. In contrast, rates of ventricular fibrillation or cardiac arrest were higher only among patients with potassium levels of less than 3.0 mEq/L and at levels of 5.0 mEq/L or greater.

Conclusion: Among patients with AMI, the lowest mortality was observed in those with postadmission serum potassium levels between 3.5 and <4.5 mEq/L compared with those who had higher or lower potassium levels.

Keywords: Arrhythmias, Cardiac, Homeostasis, Mortality, Myocardial infarction, Patient safety, Pottasium

Use of the Platelet Count/Spleen Diameter Ratio for the Non-invasive Diagnosis of Esophageal Varices in Patients with Schistosomiasis


Abstract:

Background/Aim: In patients with liver cirrhosis, the platelet count/spleen diameter ratio has been validated as a parameter for the noninvasive diagnosis of esophageal varices. Schistosoma infection is a frequent cause of portal hypertension in Middle Eastern countries, and is associated with the development of esophageal varices. In this study we aimed to evaluate the platelet count/spleen diameter ratio as a noninvasive tool for the prediction of the presence of esophageal varices in patients with schistosoma-related chronic liver disease.

Patients and Methods: Forty-three patients with hepatosplenic schistosomiasis underwent upper digestive endoscopy to check for the presence of esophageal varices. Furthermore, all patients underwent abdominal ultrasonography, and maximum spleen diameter (in mm) was measured. The platelet count/spleen diameter ratio was calculated in all patients.

Results: Esophageal varices were found in 31 patients (72%). Age and gender were not significantly different between patients with and without varices. In patients with varices, median platelet count (82,000/μL versus 72,000/μL; P < 0.0001) and platelet count/spleen diameter ratio (571 versus 1651, P < 0.0001) were significantly lower, while spleen diameter (147 mm versus 109 mm, P < 0.0006) was significantly larger. In multivariate analysis, the platelet count/spleen diameter ratio was the only parameter independently associated with the presence of varices (P < 0.0001).

Conclusions: In this study we have validated the use of the platelet count/spleen diameter ratio for the noninvasive diagnosis of esophageal varices in patients with portal hypertension caused by schistosoma infection. In these patients, the platelet count/spleen diameter ratio might be used to allow better rationalization of medical resources and use of endoscopy.
glutathione peroxidase, as well as the concentrations of malondialdehyde (MDA), nitric oxide (NO), and total sulfhydryl groups in plasma and bone homogenates.

Results: A significant decrease in BMD was observed in O group compared with C group (p = 0.015), and a significant increase was observed in OV compared with O group (p = 0.003). When groups were compared with respect to parameters of OS, MDA and NO levels in bone tissue were significantly higher in O than in C (p = 0.032, p = 0.022) and were significantly lower in OV than in C (p = 0.025, p = 0.018). SOD activity was significantly higher in O than in C (p = 0.032). In plasma, MDA activity was significantly higher in O than in C (p = 0.022) and NO level was significantly higher in O than in C and OV (p = 0.017, p = 0.018).

Conclusions: Our results suggest that ovariectomy may produce osteoporosis and OS in females, and vitamin C supplementation may provide alterations regarding improvement in OS and BMD values. We assume that studies including more subjects are needed to make a decisive conclusion about OS-BMD relation.

Keywords: Rat; ovariectomy; osteoporosis; oxidative stress; vitamin C; ascorbic


Serum Potassium Levels and Mortality in Acute Myocardial Infarction

Abhinav Goyal, John A. Spertus, Kensey Gosch, Lakshmi Venkitachalam, Philip G. Jones, Greet Van den Berghe, Mikhail Kosiborod

Abstract:

Context: Clinical practice guidelines recommend maintaining serum potassium levels between 4.0 and 5.0 mEq/L in patients with acute myocardial infarction (AMI). These guidelines are based on small studies that associated low potassium levels with ventricular arrhythmias in the pre-B-blocker and preperfusion era. Current studies examining the relationship between potassium levels and mortality in AMI patients are lacking.

Objective: To determine the relationship between serum potassium levels and in-hospital mortality in AMI patients in the era of B-blocker and reperfusion therapy.

Design, Setting, and Patients: Retrospective cohort study using the Cerner Health Facts database, which included 38689 patients with biomarker-confirmed AMI, admitted to 67 US hospitals between January 1, 2000, and December 31, 2008. All patients had in-hospital serum potassium measurements and were categorized by mean postadmission serum potassium level (<3.0, 3.0-<3.5, 3.5-<4.0, 4.0-<4.5, 4.5-<5.0, 5.0-<5.5, and ≥5.5 mEq/L). Hierarchical logistic regression was used to determine the association between potassium levels and outcomes after adjusting for patient- and hospital-level factors.

Main Outcome Measures: All-cause in-hospital mortality and the composite of ventricular fibrillation or cardiac arrest.

Results: There was a U-shaped relationship between mean postadmission serum potassium level and in-hospital mortality that persisted after multivariable adjustment. Compared with the reference group of 3.5 to less than 4.0 mEq/L (mortality rate, 4.8%; 95% CI, 4.4%-5.2%), mortality was comparable for mean postadmission potassium of 4.0 to less than 4.5 mEq/L (5.0%; 95% CI, 4.7%-5.3%), multivariable-adjusted odds ratio (OR), 1.19 (95% CI, 1.04-1.36). Mortality was twice as great for potassium of 4.5 to less than 5.0 mEq/L (9.1%; 95% CI, 8.1%-10.0%; multivariable-adjusted OR, 1.95; 95% CI, 1.68-2.36), and even greater for higher potassium strata. Similarly, mortality rates were higher for potassium levels of less than 3.5 mEq/L. In contrast, rates of ventricular fibrillation or cardiac arrest were higher only among patients with potassium levels of less than 3.0 mEq/L and at levels of 5.0 mEq/L or greater.

Conclusion: Among inpatients with AMI, the lowest mortality was observed in those with postadmission serum potassium levels between 3.5 and <4.5 mEq/L compared with those who had higher or lower potassium levels.

Keywords: Arrhythmias, Cardiac, Homeostasis, Mortality, Myocardial infarction, Patient safety, Pottasium


Use of the Platelet Count/Spleen Diameter Ratio for the Non-invasive Diagnosis of Esophageal Varices in Patients with Schistosomiasis


Abstract:

Background/Aim: In patients with liver cirrhosis, the platelet count/spleen diameter ratio has been validated as a parameter for the noninvasive diagnosis of esophageal varices. Schistosoma infection is a frequent cause of portal hypertension in Middle Eastern countries, and is associated with the development of esophageal varices. In this study we aimed to evaluate the platelet count/spleen diameter ratio as a noninvasive tool for the prediction of the presence of esophageal varices in patients with schistosoma-related chronic liver disease.

Patients and Methods: Forty-three patients with hepatosplenic schistosomiasis underwent upper digestive endoscopy to check for the presence of esophageal varices. Furthermore, all patients underwent abdominal ultrasonography and maximum spleen diameter (in mm) was measured. The platelet count/spleen diameter ratio was calculated in all patients.

Results: Esophageal varices were found in 31 patients (72%). Age and gender were not significantly different between patients with and without varices. In patients with varices, median platelet count (82,000/µL versus 72,000/µL, P < 0.0001) and platelet count/spleen diameter ratio (571 versus 1651, P < 0.0001) were significantly lower, while spleen diameter (147 mm versus 109 mm, P < 0.0001) was significantly larger. In multivariate analysis, the platelet count/spleen diameter ratio was the only parameter independently associated with the presence of varices (P < 0.0001).

Conclusions: In this study we have validated the use of the platelet count/spleen diameter ratio for the noninvasive diagnosis of esophageal varices in patients with portal hypertension caused by schistosoma infection. In these patients, the platelet count/spleen diameter ratio might be used to allow better rationalization of medical resources and use of endoscopy.