

residents' roundtable

Srikanth Vallurupalli, MD, Matt Hartman, PhD, Hussam Almasri, MD

Herpes Simplex Encephalitis Post Cardiac Surgery

Introduction

Cardiac surgery with cardiopulmonary bypass imparts a state of depressed cell mediated immunity not attributable to simply the stress of a surgical procedure. Infections caused by Herpes viruses are rare in the immediate post-operative period.

Case Report

Seven days following mechanical aortic valve replacement and 2-vessel coronary artery bypass graft surgery, a 65-year-old man developed worsening confusion and fever after being discharged to home from the hospital the previous day. Examination revealed that he was disoriented to place or time and had a temperature of 102.4°F but otherwise unremarkable. CBC revealed a leukocytosis of 13,000/ml. Chest radiograph was unremarkable. CT of the head without contrast was normal. Early prosthetic valve endocarditis was suspected and he was started on broad spectrum antibiotics. Transesophageal echocardiography was negative for vegetations and 48 hour blood cultures were without growth. An MRI of the head revealed characteristic bitemporal enhancing lesions on T2 weighted images. Acyclovir was started empirically and antibacterial therapy discontinued. Lumbar puncture was performed after reversal of warfarin.

Discussion

Analysis of post cardiac surgery patients has revealed a state of altered cellular immunity. Patients undergoing cardiac operations demonstrate reduced total T cells, CD4+ T-helper cells, and interleukin 2 production on POD 1, with no similar changes in control cholecystectomy patients. In studies, impaired delayed hypersensitivity reaction to antigen skin battery has been demonstrated following reactivation

or establishment of HSV infection. Infections with HSV following non-transplant cardiac surgery have been reported in the literature only rarely, including pneumonia in three cases. Our case falls in line with these reports.

Conclusions

- We report the first case of herpes simplex encephalitis following cardiopulmonary bypass.
- A state of depressed cell mediated immunity exists after cardiac surgery which is probably not simply related to surgical stress.
- A viral etiology should be considered for infections in the post cardiac surgery patient.

Srikanth Vallurupalli, MD is an Internal Medicine Resident and Visiting Clinical Associate for the Department of Internal Medicine at the College of Medicine of the University of Illinois Urbana-Champaign.

Matthew Hartman, PhD, Animal Sciences is an Internal Medicine Resident at the University of Washington in Seattle.

Hussam Almasri, MD is a Clinical Assistant Professor for the Department of Family Medicine at the College of Medicine of the University of Illinois Urbana-Champaign.