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Presentation Abstract

Session: APS.215.03-Reducing Adverse Outcomes After Surgery

Presentation: 12247 - Infections After Cardiac Surgery: Initial Experience from the Cardiothoracic Surgical Trials Network

Pres Time: Tuesday, Nov 15, 2011, 9:30 AM -11:00 AM

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Specialty: +215. Clinical and Hospital-Based Observational Studies

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Abstract: **Objective:** Hospital-acquired infections are the most common non-cardiac complication after cardiac surgery, but their true prevalence across a broad range of operations remains unknown. This study prospectively examines the time of occurrence and risk factors for postoperative infections within 60 days after cardiac surgery.

Methods: A prospective cohort study was conducted in 10 academic centers to assess major and minor infections based on CDC/NHSN surveillance definitions. Consented patients without active preop infection were enrolled between 2/1/10-9/30/10. All infections were adjudicated by an independent committee of ID experts. A multivariable regression model was developed to identify baseline characteristics associated with infection.

Results: 5,185 patients were enrolled (mean age 64.5±13.2 years). 74% of surgery was elective; the most frequently performed procedures were CABG (n=2521), aortic valve (n=1801), and mitral valve surgery (n=1314). There were 733 infections; 280 of which were *major infections*; the most common being pneumonia (2.4% of all patients), *C. difficile* colitis (0.93%), bloodstream infection (0.75%), deep incision surgical site infection (0.50%), and mediastinitis (0.23%). Major infections occurred 14.5 days (median) after surgery and 51% occurred post-discharge. 8% of patients experienced minor infections; the most prevalent being symptomatic UTI (3.3%) and superficial incision site infection (2.5%). Independent risk factors for major infections are summarized in Table 1.

Conclusion: Infections after cardiac surgery occur later than previously suspected, with many occurring only after hospital discharge. Moreover, focus has been on sternal wound infections, rather than on more prevalent ones, such as pneumonia and *C. diff* colitis. These observations should guide creation of more effective management strategies to reduce occurrence of all infections.

Variable	Unit	OR	95% Confidence Interval	
Congestive Heart Failure	1	1.77	1.30	2.41
Hypertension	1	1.53	1.02	2.31
Smoker	1	1.41	1.04	1.93
Chronic Lung Disease	1	1.39	0.96	2.00
Corticosteroids	1	2.15	1.24	3.73
Preoperative WBC > 11 ⁴⁶ /mL	1	1.68	1.04	2.71
PRBC Transfusion	1	1.38	1.00	1.91
Creatinine > 1.3 mg/dL	1	1.79	1.30	2.45
Cardiopulmonary Bypass Time (minutes)	60	1.42	1.24	1.61
ICU Length of Stay (every 2 days)	2	1.12	1.06	1.19

Disclosures: **M. Argenziano:** None. **J.D. Puskas:** None. **T.B. Ferguson:** None. **A.C. Gelijns:** None. **K. Horvath:** None. **M.A. Miller:** None. **S. Welsh:** None. **E. Moquete:** None. **K.N. Su:** None. **A. Weinberg:** None. **A.J. Moskowitz:** None. **P.T. O'Gara:** None. **E.H. Blackstone:** None.

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