

## **Corynebacterium endocarditis species-specific risk factors and outcomes.**

**Belmares J, Detterline S, Pak JB, Parada JP.**

Section of Infectious Diseases, Louisiana State University Health Sciences Center, 2390 West Congress Street, Lafayette, LA, USA. jaimebelmares@hotmail.com

**BACKGROUND:** *Corynebacterium* species are recognized as uncommon agents of endocarditis, but little is known regarding species-specific risk factors and outcomes in *Corynebacterium* endocarditis. **METHODS:** Case report and Medline search of English language journals for cases of *Corynebacterium* endocarditis. Inclusion criteria required that cases be identified as endocarditis, having persistent *Corynebacterium* bacteremia, murmurs described by the authors as identifying the affected valve, or vegetations found by echocardiography or in surgical or autopsy specimens. Cases also required patient-specific information on risk factors and outcomes (age, gender, prior prosthetic valve, other prior nosocomial risk factors (infected valve, involvement of native versus prosthetic valve, need for valve replacement, and death) to be included in the analysis. Publications of *Corynebacterium* endocarditis which reported aggregate data were excluded. Univariate analysis was conducted with chi-square and t-tests, as appropriate, with  $p = 0.05$  considered significant. **RESULTS:** 129 cases of *Corynebacterium* endocarditis involving nine species met inclusion criteria. *Corynebacterium* endocarditis typically infects the left heart of adult males and nearly one third of patients have underlying valvular disease. One quarter of patients required valve replacement and one half of patients died. Toxigenic *C. diphtheriae* is associated with pediatric infections ( $p < 0.001$ ). Only *C. amycolatum* has a predilection for women ( $p = 0.024$ ), while *C. pseudodiphtheriticum* infections are most frequent in men ( $p = 0.023$ ). *C. striatum*, *C. jeikeium* and *C. hemolyticum* are associated with nosocomial risk factors ( $p < 0.001$ , 0.028, and 0.024, respectively). No species was found to have a predilection for any particular heart valve. *C. pseudodiphtheriticum* is associated with a previous prosthetic valve replacement ( $p = 0.004$ ). *C. jeikeium* infections are more likely to require valve replacement ( $p = 0.026$ ). Infections involving toxigenic *C. diphtheriae* and *C. pseudodiphtheriticum* are associated with decreased survival ( $p = 0.001$  and 0.032, respectively). **CONCLUSION:** We report the first analysis of species-specific risk factors and outcomes in *Corynebacterium* endocarditis. In addition to species-specific associations with age, gender, prior valvular diseases, and other nosocomial risk factors, we found differences in rates of need for valve replacement and death. This review highlights the seriousness of these infections, as up to 28% of patients required valve replacement and 43.5% died.

PMID: 17284316 [PubMed - indexed for MEDLINE]