Abstract: P1275

In-hospital outcome of patients with infective endocarditis: is echocardiography enough?

Authors:
A Motoc¹, J Kessels², B Roosens¹, P Lacor³, N Van De Veire⁴, J De Sutter⁴, S Droogmans¹, B Cosyns¹,
¹University Hospital (UZ) Brussels, Department of Cardiology - Brussels - Belgium, ²Free University of
Brussels (VUB), Faculty of Medicine and Pharmacy - Brussels - Belgium, ³University Hospital (UZ) Brussels,
Department of Internal Medicine - Brussels - Belgium, ⁴AZ Maria Middelares Hospital, Department of
Cardiology - Ghent - Belgium.

Topic(s):
Echocardiography: Valve Disease

Citation:
Background: Despite improvements in medical and surgical therapy, infective endocarditis (IE) remains a deadly
disease. Echocardiography is the first-line diagnostic tool. However, data regarding its role in the prognostic
assessment of in-hospital clinical outcome of IE are scarce.
Purpose: We sought to assess the role of echocardiography to predict the in-hospital outcome in a large cohort
of patients diagnosed with definite IE and its association with clinical presentation and microorganisms.
Methods: We retrospectively included patients from two centers between 2006 and 2018. Transthoracic and
transesophageal echocardiography were performed in all patients. The clinical endpoints were in-hospital death,
embolic events (cerebrovascular and non-cerebrovascular), shock (septic shock and cardiogenic shock) and
cardiac surgery.
Results: 183 patients with definite IE (age 68.9 ± 14.2 years old, 68.9% male) were evaluated. Ninety three
(50.8%) patients had aortic valve IE and 81 (44.3%) patients presented with mitral valve IE. Twenty three
patients had multivalvular IE. The in-hospital mortality rate was 22.4%. Sixty patients (32.8%) had embolic
events and 42 (23%) patients developed shock during hospitalization. Surgery was performed in 103 (56.3%)
patients. Mitral valve IE on echocardiography was an independent predictor of in-hospital mortality (p=0.038,
OR 0.38, 95% CI 0.15 – 0.94) and aortic valve IE on echocardiography was an independent predictor of
embolic events (p=0.018, OR 0.36, 95% CI 0.16-0.84). The presence of a new cardiac murmur upon admission
was predictive for the need of cardiac surgery (p=0.042, OR 0.51, 95% CI 0.22- 1.09) and correlated with
the severity of valvular regurgitation identified by echocardiography (p=0.024). Methicillin resistant
Staphylococcus aureus (MRSA) as the causative microorganism was an independent predictor for in - hospital
mortality and for the development of shock during hospitalization (p=0.010, OR 0.13 95% CI 0.30 - 0.62 and
p=0.027, OR 6.11, 95% CI 1.22 – 30.37, respectively). No correlation was found between MRSA and
echocardiographic parameters.
Conclusion: Mitral valve IE was an independent predictor of in - hospital mortality. Furthermore, aortic valve IE
was an independent predictor of embolic events. The presence of a new cardiac murmur was predictive for the
need of cardiac surgery and correlated with the severity of valvular regurgitation by echocardiography. Our
findings suggest that a thorough physical examination upon admission is required in combination with a
comprehensive echocardiographic exam for early identification of patients with IE at high - risk for in-hospital
death and complications.