

Predictors of adverse prognosis in patients with infective endocarditis in a surgical referral center

V. Scheggi, I. Olivotto, N. Ceschia, I. Merilli, V. Andrei, B. Alterini, P.L. Stefano

Careggi University Hospital, Department of Cardiology, Florence, Italy

Funding Acknowledgement: Type of funding source: None

Background: Despite optimal medical and surgical treatment, mortality in infective endocarditis (IE) remains high. Aim of this study was to identify predictors of long term mortality for any cause, adverse event rate, relapse rate and valvular dysfunction at follow-up, in a high-volume surgical center.

Methods: We retrospectively analyzed 358 consecutive patients (127 women) admitted to our department with definite diagnosis of IE not device-related. IE occurred on native valves in 224 patients (63%); the infection involved the aortic valve in 192 (54%), mitral valve in 139 (39%) and tricuspid valve in 26 (7%). Overall 285 (80%) patients underwent surgery and 73 (20%) were treated conservatively, 38 due to absence of surgical indication and 35 due to refusal or prohibitive surgical risk. Long-term follow-up was obtained by structured telephone interviews. Primary endpoints were all-cause mortality, freedom from recurrent endocarditis, postoperative incidence of major adverse events (hospitalization for any cause, pace-maker implantation, new onset of atrial fibrillation, sternal dehiscence), worsening of left ventricular ejection fraction (LVEF) and valvular dysfunction.

Results: Mean age was 65 years (SD 15.2). Mean vegetation length was 8.9 mm (SD 7.6). Endocarditis was left-sided in 332 (93%). Average follow-up was 6 months. At univariable analysis, mortality was associ-

ated with female gender ($p=0.031$), age ($p<0.001$), higher EuroSCORE 2 ($p<0.001$), chronic renal failure ($p<0.001$), diabetes ($p=0.002$), brain embolism on presentation ($p=0.05$), double valve infection ($p=0.008$), low ejection fraction ($p<0.001$), paravalvular extension ($p=0.031$), prosthetic infection ($p=0.018$), exclusion from surgery if indicated ($p<0.001$), high procalcitonin levels ($p=0.035$); factors associated with a significantly lower mortality were streptococcal infection ($p=0.04$; OR 0.34) and early surgery ($p=0.009$, OR 0.55). At multivariable analysis independent predictors of all-cause mortality were lower EF, EuroSCORE2, procalcitonin levels and diabetes. Non-fatal adverse events were associated with renal failure ($p=0.035$, OR 2.8). Relapse rate was associated with *S aureus* infection ($p=0.005$, OR 3.8), right-sided endocarditis ($p<0.001$, OR 6.7) and drug abuse ($p<0.001$, OR 9.4).

Conclusions: The present study shows that low EF, EuroSCORE2, procalcitonin levels and diabetes are independent predictors of death in patients with IE. Non-fatal adverse events are more frequent in patients with renal failure. Relapse rate is higher in drug abusers. These informations may help personalize follow-up strategies after acute admission for IE.