One-year outcome of elderly patients with endocarditis: a retrospective observational study

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Background: The incidence of infective endocarditis (IE) is rising in general population, especially in elderly, where it is associated with high morbidity and mortality. Health care procedures, degenerative heart valve diseases and intracardiac electronic devices are the main risk factors for IE in elderly population. Cardiac surgery is largely underused in these patients and the few available observational studies seem to confirm the positive outcome of surgery.

Purpose: The aim of the present study is to assess differences in survival between elderly patients affected by endocarditis treated with a conservative strategy or cardiac surgery.

Methods: We conducted a retrospective observational study of 143 elderly patients (age ≥ 70 years old) affected by endocarditis with at least one year of follow-up who were hospitalized between 2016 and 2022. The primary endpoint was the difference in one-year all-cause mortality between patients treated with a conservative strategy or cardiac surgery. The secondary endpoint was one-year mortality for sepsis or septic shock. The cumulative probability of survival was calculated using the Kaplan-Meier estimator. The log-rank test was used to compare between-group differences in survival and cox regression was used in the uni and multivariate analysis, a p<0.05 was considered significant.

Results: Between 2016 and 2022, 242 patients have been diagnosed with IE. Between them, 143 patients were at least 70 years old (59%). Cardiac surgery was performed in 16 patients, while 127 were treated with medical therapy alone. Patients treated with cardiac surgery were younger (74y vs 80y, p=0.005) and had higher prevalence of severe valvular heart disease (69% vs 23%, p<0.001). The primary endpoint of one-year all-cause mortality occurred in 80 patients in the conservative strategy group and in 5 patients treated with surgery (p=0.015); the secondary endpoint occurred in 42 patients in conservative strategy group, while no patients treated with surgery died for sepsis or septic shock (p=0.006). Finally, surgery was associated with better one-year survival (HR 0.34, 95% CI 0.14 - 0.85).

Conclusions: IE in elderly patients is an emerging clinical matter since its incidence is rising but mortality has not significantly decreased. Current clinical guidelines do not give specific indication for elderly, who are generally excluded from surgery due to the high risk carried by age and comorbidities. Few previous studies have analyzed the best treatment strategy in this cohort of patients, but data from observational studies shows a better outcome among those undergone surgery. The result of our work confirmed that elderly patients with IE treated with cardiac surgery have better one-year survival and lower rate of death for all causes, sepsis or septic shock.
Kaplan Mayer Curve For One Year Survival

Number at risk
Medical Therapy 127
Surgery 16

Days
0 100 200 300 400

Survival (%)
0.00 0.25 0.50 0.75 1.00

57 50 48
13 11 11

Medical Therapy
Surgery