An outbreak of infective endocarditis during the COVID-19 pandemic? - an observational retrospective single centre study

Cabral M.[1]; Fernandes S.[1]; Santos LG.[1]; Carvalho R.[1]; Sa FM.[2]; Martins H.[1]; Pernencar S.[1]; Ruivo C.[1]; Santos B.[1]; Morais J.[1]

[1]Leiria Hospital Centre, Leiria, Portugal
[2]Pedro Hispano hospital, Matosinhos, Portugal

Infective endocarditis (IE) is described as an uncommon and challenging infective disease, due to its presentation variability. Its mortality remains high besides the better disease knowledge and therapeutic progress.

The aim of this study was to describe the clinical features and the incidence of IE. Furthermore, we try to identify the risk factors associated with early mortality.

A retrospective study was conducted and all patients diagnosed with definite or possible IE between January 2015 and June 2020, according to the modified Duke criteria, were included. Patient selection and information collection were obtained through medical records. Outcomes were in-hospital and 3 months after discharge mortality.

Group comparisons and multivariate logistic regression analysis were performed. A p-value less than 0.05 is statistically significant.

We analysed 51 patients, which 41 were admitted between 2015 and 2019 with a mean incidence of 8.2 cases per year. In 2020, 10 cases were diagnosed, corresponding to a percentual increase of 143.9%.

Of the 51 patients, 70.6% were male. The mean age was 65 years. Fever was the main presentation feature at admission. We counted 33.3% prosthetic valve endocarditis (PVE) and 5.9% IE device-related. The most common pathogens were Streptococcus gallolyticus (13.7%) and Streptococcus oralis (13.7%). 35 patients (68.6%) had local complications and 26 patients (51%) had systemic complications. One-third of the patients was referenced to surgical treatment. Overall in-hospital mortality was 19.6% and early mortality at 3 months was 27.5%.

In the univariate analysis, early mortality was higher in diabetes mellitus (DM) patients (p < 0.01) and in those who developed sepsis during hospitalization (p = 0.04). In multivariate logistic regression, only DM (OR = 15.8, 95% CI [3.2, 79.0]) was shown to be an independent factor of mortality.

The incidence of IE increased during the first semester of 2020, possibly due to the increased attention given to patients with fever. Diabetes mellitus was found to be the only independent predictor of mortality. More national multicentre studies are needed.

Predictive factors of 3 months mortality

	Survivors (n = 37)	Non-survivors (n = 14)	p-value
Age, med (IQ)	70.0 (23.0)	70.5 (14.0)	0.42
Female, n(%)	11 (29.7)	4 (28.6)	1.00
Diabetes mellitus, n(%)	6 (16.2)	11 (78.6)	<0.01
Local complication, n(%)	24 (64.9)	11 (78.4)	0.50
Sepsis, n(%)	2 (5.4)	4 (28.6)	0.04

Univariate analysis (resumed version). med-median, IQ-interquartile range, n-absolute frequency
Abstract Figure. ROC curve for logistic regression model

ROC Curve