

Epidemiology of infective endocarditis in French intensive care units over the 1997-2014 period-from CUB-R a Network

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BACKGROUND: Few studies focus only on severe forms of infective endocarditis, for which organ failure requires admission to an intensive care unit (ICU). This study aimed to describe demographical, comorbidities, organ failure, and pathogen-related characteristics in a population of critically ill patients admitted to ICU for infective endocarditis and to identify risk factors of in-ICU mortality.

METHODS: Retrospective observational multicenter (N = 34) study of the CUB-Rea register, based on ICD-10 coding rules, between 1997 and 2014 in France including ICU patients managed for infective endocarditis. In-ICU mortality associated factors were assessed by multivariate logistic regression including an interrupted time analysis of three periods (1997-2003, 2004-2009, and 2010-2014).

RESULTS: Four thousand four hundred five patients admitted in ICU for infective endocarditis were included. We observed an increase in endocarditis prevalence, as well as an increase in organ failure severity over the three periods. In addition, valve surgery was more frequently performed (27%, 31%, and 42%, $P < 0.0001$) while in-ICU mortality significantly decreased (28%, 29%, and 23%, $P < 0.001$). Since 2010, a significant increase in the trends' slope of incidence for *Streptococcus* sp. and *Staphylococcus* sp. was observed with no change concerning intracellular bacteria, *Enterococcus* sp. or *Candida* sp. slope trends. In multivariate analysis, age, SAPS2, organ failure, stroke, and *Staphylococcus* sp. were associated with ICU mortality. Conversely, surgery, intracardiac devices, male gender, and *Streptococcus* sp.-related infective endocarditis were associated with a better outcome.

CONCLUSIONS: Our study reveals a shifting landscape of infective endocarditis epidemiology in French ICUs, characterized by reduced in-ICU mortality despite higher severity, more surgery, and substantial changes in microbial epidemiology.

Résumé en anglais

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