Abstract

Background: Sepsis is a significant public health concern. The clinical response to statins is variable among sepsis patients. Objective: The aim of the study was to determine the effect of statin treatment on mortality in Lebanese patients with sepsis.

Methods: A retrospective multicenter study on Lebanese patients with sepsis between January 2008 and March 2012 was conducted. Patients with a primary diagnosis of sepsis admitted to the intensive care unit of two tertiary care hospitals in Beirut were included. Patients who continued to receive statin therapy for dyslipidemia during the hospital course were included in the statin treatment group. The control group consisted of patients not taking statin. Demographic characteristics, clinical signs, standard laboratory test and treatment received were compared between these two groups using univariate analysis. Logistic regression and survival analysis were performed by SPSS. Results: Three hundred fifty one Lebanese patients were included (age: 71.33 SD=14.97 years; Male: 56%). Among them, 30% took a statin at the doses recommended for dyslipidemia. The comparison of the two groups showed that in the statin treatment group: The mean serum level of C-reactive protein at the time of sepsis was significantly decreased (P=0.050), the length-stay at ICU significantly increased (P=0.047) and mortality significantly reduced (P<0.001). Results were confirmed by logistic regression, particularly for mortality. In the Cox regression analysis, hypothermia and shock were significantly associated with high mortality while statin treatment decreased mortality (hazard ratio = 0.540; 95% CI: 0.302-0.964; P=0.037). Conclusion: At usual doses for dyslipidemia, statin treatment decreased incidence of mortality related to sepsis and improved the survival in this Lebanese septic population. Large randomized controlled clinical trials must be realized to give conclusive results about the potential beneficial effect of statins in sepsis.

Keywords

Sepsis, Hydroxymethylglutaryl-CoA Reductase Inhibitors, Mortality, Survival Analysis, Lebanon.