

Septic shocks with no early etiological diagnosis: a multicentre prospective cohort study.

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Rationale: The lack of a patent source of infection and microbiological documentation is not uncommon during the 24 first hours of management of a septic shock, raising the possibility of non-infectious causes. **Objectives:** Among patients admitted in the Intensive Care Unit (ICU) with a “clinical phenotype” of septic shock, we aimed to determine the prevalence of shock with no early etiological diagnosis, to identify their main causes and to compare their outcome to those of patients with an “early-diagnosed” septic shock. **Methods:** A prospective, multicenter, observational cohort study in 10 ICUs of public hospitals in France. **Measurements and main results:** From November 2014 to June 2015, 508 patients were admitted for a suspicion of septic shock. Among them, 374 (74%) had septic shock confirmed during the first 24 hours (“early” septic shock), while the 134 (26%) others had no source of infection nor microbiological documentation identified within the first 24 hours. These patients had either a proven septic shock diagnosed after 24h (“late” septic shock; n=37/134, 28%) or a severe systemic inflammatory response syndrome (SIRS) (n=97/134, 72%) encompassing patients having a non-septic severe SIRS (*i.e.*, a non-infectious cause was identified; n=59/134, 44%) or a severe SIRS of unknown origin (n=38/134, 28%). The leading causes of non-septic severe SIRS were adverse drug reactions, acute mesenteric ischemia, malignancies and inflammatory diseases. There were no difference regarding the in-ICU mortality (n=139/374, 37% vs. 49/134, 37%; p=0.90), the median duration of ICU stay (7 vs. 7 days, p=0.69), of tracheal intubation (4 vs. 4 days, p=0.19) and of vasopressor support (3 vs. 3 days, p=0.55) between patients with “early” septic shock and others. A multivariable Cox model with adjustment for variables significantly associated with day-60 mortality showed that patients with a severe SIRS of unknown origin had a higher risk of mortality than others. **Conclusions:** One quarter of the patients admitted in the ICU for a suspicion of septic shock had no infection identified 24h after vasopressors introduction and almost three quarters of these had a severe SIRS that mimicked sepsis. Patient with a severe SIRS of unknown origin had a poorer outcome.