Author’s response to reviews

Title: How many general and inflammatory criteria need to be fulfilled when defining sepsis due to the 2003 SCCM/ESICM/ACCP/ATS/SIS definitions in critically ill surgical patients: a retrospective observational study

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Dear ladies and gentlemen,

in 2003, the revised Society of Critical Care Medicine / European Society of Critical Care Medicine / American College of Chest Physicians / American Thoracic Society, Surgical Infection Society (SCCM/ESICM/ACCP/ATS/SIS) sepsis definitions were published to better reflect the reality at the bedside, especially, to address how physicians diagnose sepsis in daily practice, regarding general, inflammatory, hemodynamic, organ dysfunction, and tissue perfusion variables. Diagnosis of severe sepsis and septic shock leads to extensive consequences regarding critical care management and treatment guidelines.

However, it has not been specified how many of the eleven general and inflammatory criteria of the extended list in the 2003 definitions should be fulfilled to define sepsis.

Therefore, the present study was performed to compare the prevalence of different stages of sepsis and ICU mortality rates, and to find out the case mix within the same collective of critically ill postoperative/posttraumatic patients applying the 2003 definitions with increasing cut-offs for eight general and inflammatory criteria. Moreover, it should be addressed at which cut-off a profound number of patients might be under-classified who are expected to benefit from earlier and more focused critical care management.

The present study reveals that the cut-off for general and inflammatory criteria to classify patients as SIRS/sepsis profoundly influences prevalence and mortality rates of SIRS/septic shock. Usage of a cut-off of greater than 3/8 systemic response criteria to assess SIRS/sepsis may under-classify patients with shock
at high risk of death resulting in delayed or lack of timely and focused critical care management. Thus, the present study underlines the need for a widespread use of a commonly accepted number of general and inflammatory criteria to classify SIRS/sepsis to facilitate comparability, diagnosis, treatment recommendations, and enrolment strategies for clinical trials of critically ill surgical patients. We suggest to use a cut-off of >= 3/8 criteria within the 2003 definitions to assess SIRS/sepsis to yield an optimal balance between benefits and downsides regarding consecutive management guidelines.

Yours sincerely

Manfred Weiss