POSITION STATEMENT

Latin American Sepsis Institute

Surviving Sepsis Campaign 2020 Guidelines

Context

In October 2021, the new Surviving Sepsis Campaign (SSC) guidelines were published simultaneously in the journals Intensive Care Medicine [1] and Critical Care Medicine [2]. The guidelines were organized by the Society of Critical Care Medicine (SCCM) and the European Society of Intensive Care Medicine (ESICM), endorsed by several international societies, including the Latin American Institute of Sepsis (ILAS). The 2020 guidelines introduced several changes—some significant, others with changes only in the strength of recommendation. It's worth mentioning that changes to the treatment guidelines do not necessarily lead to changes in treatment bundles [4], which aim to facilitate implementation processes and generate metrics that promote audit mechanisms and feedback. ILAS bases its protocols, bundles, and indicators on the SSC while maintaining the autonomy required to adapt to the Brazilian context. Since some of the current guideline changes interface with the first-hour treatment bundle, ILAS deemed it necessary to issue a position regarding potential modifications to its indicators. All these aspects were discussed by the ILAS expert committee that endorses this statement.

The New Surviving Sepsis Campaign Guidelines

The following changes in the new guidelines interface with the first-hour bundle:

1. Lactate sampling - There were no changes, with a weak recommendation to collect lactate in all patients with suspected sepsis. If levels are high, it is suggested to guide resuscitation towards reducing these levels. The 2020 version includes a new, weak recommendation suggesting the use of capillary refill time as an alternative guide for resuscitation.
2. Blood culture sampling - The current version does not explicitly recommend blood cultures. A broader recommendation was included, encouraging a continuous search for infection diagnosis. In the rationale, the authors clarify that the previous good clinical practice recommendation for collecting blood cultures and other pertinent cultures remains valid.
3. Antimicrobial therapy within one hour - Intravenous broad-spectrum antibiotics within the first hour remain a strong recommendation for patients with shock or probable sepsis. However, for patients in whom sepsis is considered only possible, a rapid investigation into infectious and non-infectious causes is suggested. If the hypothesis of infection persists, administration of antimicrobials within three hours of initial presentation is recommended. It is also suggested that patients with a low probability of sepsis should not receive antimicrobials.

4. Fluid resuscitation - The strength of the recommendation for administering 30 ml/kg of crystalloids to patients with signs of hypoperfusion was changed from strong to weak, suggesting that this intervention should be individualized.
5. Vasopressor use - A new recommendation advises starting vasopressors through peripheral veins for faster resolution of hypotension.

Interface of the New Guidelines with ILAS Quality Indicators

We believe that there is currently no need to change the quality indicators used by ILAS for the reasons listed below. This position could be reviewed if the SSC modifies its bundles, following proper evaluation of the proposed changes and their rationale.

1. Lactate sampling continues to be an important marker. Although the Andromeda study suggested the equivalence of resuscitation guided by capillary refill time, we believe that more data is required before using this alternative in quality improvement programs.
2. Blood culture sampling has not changed.
3. Antimicrobial therapy within one hour. The triage flowchart suggested by ILAS for sepsis patients is based on the presence of organ dysfunction or systemic inflammatory response syndrome (SIRS) criteria, with high sensitivity based on nurses' assessments. However, adherence to the protocol, and consequently, the administration or not of antimicrobials, depends on medical evaluation, as specificity is crucial. In the flowchart, a key question is on the presence of a suspected or confirmed focus. Patients without a suspected focus should be immediately excluded from the protocol, aligning with the recommendation not to administer antimicrobials to patients with a low probability of sepsis. However, distinguishing between probable and possible sepsis is more challenging. According to our current flowchart, in patients with organ dysfunction and a suspected or confirmed focus, whether or not they have hypotension, the protocol should be maintained, with sample collection and antimicrobial administration within the first hour. We understand that these patients likely have sepsis, and this flow aligns with the current SSC guidelines. However, patients whose protocol was initiated based only on SIRS criteria, without apparent clinical organ dysfunction, may not have sepsis, even with a suspected or confirmed focus. According to our current flowchart, only patients with risk factors for sepsis, such as the elderly and those with severe comorbidities, should continue the protocol with sample collection and antimicrobial administration. We believe that these patients should be considered as "probable sepsis" due to their high risk of mortality in our context. On the other hand, patients with SIRS but without risk factors should be considered to have "possible sepsis'. Thus, the protocol should be withhold, and care should continue to evaluate the presence of infection and laboratory-confirmed sepsis. This

evaluation should be fast, ideally within three hours. This alignment with the new SSC terminology can be seen in Figure 1.

4. We believe there is a need for more rigorous ongoing evaluation to discontinue antimicrobials if sepsis is not confirmed. Thus, in patients in whom the protocol is continued with sample collection and antimicrobial administration, it is essential to stop antimicrobials if infection is not confirmed. Similarly, throughout the patient journey, antimicrobials should be discontinued if the infection/sepsis hypothesis is dismissed. This guidance is also available in Figure 1.

5. Fluid resuscitation. ILAS already considered individualization of the amount of volume to be infused, provided the reason for not infusing 30 ml/kg was duly documented in the medical records. We understand that there is no need to change this indicator.

6. Similarly, there is no need to change the "vasopressor start" indicator, as the modification in the new guideline aligns with the need for early initiation.

We hope to have helped clarify these subjects for our partners and continue to count on the collaboration of all. We are available for any further clarifications.

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References

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2. Evans L, Rhodes A, Alhazzani W, Antonelli M, Coopersmith CM, French C, Machado FR, McIntyre L, Ostermann M, Prescott HC *et al*: **Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021**. *Crit Care Med* 2021, **49**(11):e1063-e1143.
3. **Surviving Sepsis Campaign** [www.survivingsepsis.org]
4. Levy MM, Evans LE, Rhodes A: **The Surviving Sepsis Campaign Bundle: 2018 Update**. *Crit Care Med* 2018, **46**(6):997-1000.