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Fever Management of Critically Ill Patients with COVID-19 Infection: Less is More?

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Dear Editor,

Although physicians usually intervene to treat fever in critically ill patients, the relationship between body dysthermia (both hypothermia or hyperthermia) and these patients' outcomes are not well understood (1, 2). Fever is practically the most prevalent clinical feature at the onset of an illness during the hospitalization of patients with SARS-CoV-2 infection (3). Some studies report that fever management in critically-ill patients can increase infection risk without a decrease in mortality (4). For example, a recent meta-analysis on forty-two studies has suggested that the mortality rate is lower in septic patients with fever (5). Another study described no significant difference in critically ill patients' mortality rates between the patients with more-active fever management and less-active fever management (6). Compatibly, the results of a recently published meta-analysis show that the use of antipyretic drugs and external cooling is associated with higher risk mortality in septic ICU patients who require mechanical ventilation (7).

It is difficult to determine whether the excellent outcome of the critically-ill hyperthermic patients is due to their appropriate ability to respond to the acute phase or the fever response itself. On the other hand, an ideal target temperature range optimal for organ function is unclear (8). Moreover, it is still uncertain when and how to attempt to reduce the temperature in a patient with elevated body temperature (9).

Humans are not adapted to critical illnesses, and in the absence of contemporary medicine and benefits of intensive care, most critically-ill, febrile, and infected patients with infection and fever would undoubtedly die. Each physician should attentively consider the balance between the potential benefits of reducing metabolic rate and the possible risks of a harmful effect on the host's defense mechanisms with fever control.

The definite impact of the antipyretics' fever-lowering effect on critically-ill patients with COVID-19 infection is presently unknown. Hence, the general approach to the systematic suppression of fever in these patients is not recommended, and antipyretics should be administered based on each patient's condition. Although a fever response, which is in the physiological range with compensating changes and settled vital signs, is preferred not to be treated, the deterioration in vital signs (such as respiratory rate and heart rate), or the patients' general condition and interventions to treat hyperthermia should be implemented. Precise, safe, and efficient temperature control is now doable; however, the most crucial point is to avoid hypothermia in these patients and maintain normothermia through pharmacologic or non-pharmacologic interventions.

Footnotes

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