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Prognosis of Cancer Patients in the ICU: Much Work Remains—Reply

In reply:

We read with great interest the excellent comments of Vincent et al regarding the mortality of adult critically ill subjects with cancer. The prognosis of patients with malignancies admitted to the ICU has improved considerably in the last 4 decades due to the evolution of critical care and supportive oncology.¹ This trend is observed not only in patients with solid cancers, but also in patients with hematological malignancies. The 80% ICU mortality rate found in studies of the 1980s and 1990s²⁻⁵ has decreased to values around 30–40% today.^{6,7} Consequently, the current ICU mortality rates of cancer patients are comparable with those of patients without cancer admitted to general ICUs.⁸ The mere use of the diagnosis of cancer as a reason to refuse ICU treatment is no longer acceptable, and new approaches should be developed with the aim to match the potential benefit of critical care with the needs and perspectives of cancer patients and their families.

Unfortunately, in our study⁹ we did not compare the mortality rates of patients with solid neoplasms with those with hematological neoplasms, and this remains as an evidence gap due to the scarce literature about this issue. Some studies have shown that subjects with hematological malignancies have higher ICU mortality rates when compared with subjects with solid cancers.⁸ However, conflicting data exist about this finding. For example, Azoulay et al,¹⁰ in a prospective multi-center cohort of 1,011 critically ill subjects with hematological malignancies, showed a hospital survival rate of 60%, a statistic similar to those found in a mixed population of ICU patients.¹¹ The study of van Vliet et al¹² showed that the

ICU mortality rate of subjects with solid neoplasms was comparable with the rate for those with hematological tumors. Moreover, some evidence suggests that the accumulation of organic dysfunction during ICU stay is a better predictor of mortality than the type of malignancy per se. The publication of Soares et al⁶ on 700,000 critically ill subjects with cancer showed that mortality was predicted by severity of organ failures and performance status and not by cancer-related characteristics, such as the type of malignancy and neutropenia.

For these reasons, we agree with Vincent et al that more studies are necessary to evaluate the course of different cancer subtypes during critical illness. Cancer is a heterogeneous group of diseases, and the prognostic model of ICU mortality for cancer patients would be improved by refinements related to the interaction between the critical illness and specific characteristics of each cancer subtype. Confounding factors, such as type of ICU admission (medical, emergency surgery, or elective surgery), time between ICU indication and ICU admission, performance status before ICU admission, degree of organ dysfunction during ICU stay, optimal cancer therapy, and rates of withdrawal and withholding support therapy during ICU stay, must be controlled to obtain improved estimates of specific cancer subtype effects on the course of critical illness. In addition, long-term outcomes, such as the incidence of post-intensive care syndrome among patients (ie, depression, anxiety, post-traumatic stress disorder, cognitive impairment, physical impairment) and their families (ie, depression, anxiety, post-traumatic stress disorder), should be evaluated for a more complete analysis of the impact of critical care on this specific population of patients. Surviving the critical illness is just the first step; we must evolve to improve long-term of quality of life cancer patients admitted to the ICU and their families.

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