Established in 1871

Swiss Medical Weekly

Formerly: Schweizerische Medizinische Wochenschrift

**An open access, online journal • www.smw.ch**

**Technical comment** | Published 23 November 2017 | doi:10.4414/smw.2017.14557
**Cite this as:** Swiss Med Wkly. 2017;147:w14557

# Technical comment on: Biskup E, et al. Oncological patients in the intensive care unit: prognosis, decision-making, therapies and end-of-life care

**Ñamendys-Silva Silvio A.**

Department of Critical Care Medicine, Instituto Nacional de Cancerología, Mexico
Department of Critical Care Medicine, Fundación Clínica Médica Sur, Mexico
Department of Critical Care Medicine, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico.

It was with great interest that I read the recent article by Biskup and colleagues [1] in *Swiss Medical Weekly*, which reported that type of tumour (solid versus haematological) is not a prognostic factor for mortality of cancer patients in the intensive care unit (ICU), and that there are no guidelines on how to select cancer patients to be admitted to the ICU [1]. I would like to make the following comments in relation to the outcomes of critically ill cancer patients in the ICU.

Patients with haematological malignancies present critical care issues different from those with solid tumours. Haematological malignancies are diffuse at diagnosis, producing general body responses to widespread malignancy. The signs include capillary permeability syndrome, clotting issues, and catabolism that triggers complications such as respiratory distress, hypotension, disseminated intravascular coagulation, renal insufficiency and hepatic dysfunction [2]. In terms of prognosis, cancer is not a homogeneous disease, and patients with solid tumours present with a lower mortality rate than patients with haematological malignancies [3–5]. Patients with haematological malignancies have a worse ICU survival than patients with solid tumours. In the ICU of the National Cancer Institute located in Mexico City, the patients with haematological malignancies had a higher ICU mortality rate than the subgroup of critically ill cancer patients with solid tumours (39.5 vs 11.9%) [6]. Similarly, Oeyen et al. [7] reported that the hospital mortality rates of patients with haematological malignancies compared with solid tumours were as follows: hospital (34 v. 13%), 3 months (42 vs 17%), and 1 year (66 vs 36%). The outcome of patients admitted to the ICU with solid tumours is comparable to that of non-cancer patients (ICU mortality rate: 20 vs 18%, difference 2%; 95% confidence interval: −2.4 – 6.5%; p = 0.367) [8].

The decision to admit a patient with a haematological malignancy to the ICU is complex and challenging for physicians. Collaboration between groups of haematologists and specialists in critical care is essential for the evaluation of patients who potentially require treatment in the ICU.

The National Cancer Institute published a policy of admission in 2013 [3, 9, 10]. Based on these policies, maximum treatment in the ICU should be considered in the following cases:

1. Recent diagnosis, complete remission, or stable disease;
2. Treatment of any serious clinical condition related to cancer or its treatment (medical or surgical);
3. High potential for control or cure of the haematological malignancy;
4. Clinical condition that threatens life, with preferably less than three organ failures; and
5. Performance status (Eastern Cooperative Oncology Group scale) between 0 and 2 [6, 9].

ICU admission should not be considered in the following scenarios:

1. The patient or responsible family members do not accept admission into the ICU;
2. Patients desiring palliative care as the only treatment option; and
3. Poor quality of life before the acute event.

When there is no certainty of the potential benefit of admitting the patient to the ICU, admission is suggested to ensure that the patient has the chance to recover from an acute complication [10]. In these cases, re-evaluation should be conducted between day 3 and day 5 of the ICU stay [9, 10]. It should be considered that patients who do not recover from organ failure during this period are less likely to survive; however, it is not recommended to limit intensive treatment before the fifth day of stay in the ICU [9].

In conclusion, survival rates for critically ill cancer patients who are admitted to the ICU have shown improvements, so admission should not be denied only because they have cancer. The decision-making process regarding admission of critically ill cancer patients to the ICU remains and re-

**Correspondence:**
*Silvio A. Ñamendys-Silva, MD, MSc, FCCP, Department of Critical Care Medicine, Instituto Nacional de Cancerología Mexico City, Mexico., Av. San Fernando no. 22,, Col. Sección XVI, Delegación Tlalpan, 14080 Mexico City, Mexico, snamendys[at]incan.edu.mx*

quires collaborative and proactive multidisciplinary teamwork.

**Disclosure statement**
No financial support and no other potential conflict of interest relevant to this article was reported.

**References**

1 Biskup ECai FVetter MMarsch S. Oncological patients in the intensive care unit: prognosis, decision-making, therapies and end-of-life care. Swiss Med Wkly. 2017;147:w14481. https://smw.ch/en/article/doi/smw.2017.14481/ PubMed.
2 Shelton BK. Admission criteria and prognostication in patients with cancer admitted to the intensive care unit. Crit Care Clin. 2010;26(1):1–20. doi: http://dx.doi.org/10.1016/j.ccc.2009.10.003. PubMed.
3 Namendys-Silva SAGonzález-Herrera MOGarcía-Guillén FJTexcocano-Becerra JHerrera-Gómez A. Outcome of critically ill patients with hematological malignancies. Ann Hematol. 2013;92(5):699–705. doi: http://dx.doi.org/10.1007/s00277-013-1675-7. PubMed.
4 Merz TMSchär PBühlmann MTakala JRothen HU. Resource use and outcome in critically ill patients with hematological malignancy: a retrospective cohort study. Crit Care. 2008;12(3):R75. doi: http://dx.doi.org/10.1186/cc6921. PubMed.
5 Azoulay EMokart DPène FLambert JKouatchet AMayaux J Outcomes of critically ill patients with hematologic malignancies: prospective multicenter data from France and Belgium--a groupe de recherche respiratoire en réanimation onco-hématologique study. J Clin Oncol. 2013;31(22):2810–8. doi: http://dx.doi.org/10.1200/JCO.2012.47.2365. PubMed.
6 Namendys-Silva SAGonzález-Herrera MOHerrera-Gómez A. Critical care for patients with cancer. Am J Hosp Palliat Care. 2011;28(7):461–2. doi: http://dx.doi.org/10.1177/1049909110398006. PubMed.
7 Oeyen SGBenoit DDAnnemans LDepuydt POVan Belle SJTroisi RI Long-term outcomes and quality of life in critically ill patients with hematological or solid malignancies: a single center study. Intensive Care Med. 2013;39(5):889–98. doi: http://dx.doi.org/10.1007/s00134-012-2791-x. PubMed.
8 Taccone FSArtigas AASprung CLMoreno RSakr YVincent JL. Characteristics and outcomes of cancer patients in European ICUs. Crit Care. 2009;13(1):R15. doi: http://dx.doi.org/10.1186/cc7713. PubMed.
9 Lecuyer LChevret SThiery GDarmon MSchlemmer BAzoulay E. The ICU trial: a new admission policy for cancer patients requiring mechanical ventilation. Crit Care Med. 2007;35(3):808–14. doi: http://dx.doi.org/10.1097/01.CCM.0000256846.27192.7A. PubMed.
10 Thiéry GAzoulay EDarmon MCiroldi MDe Miranda SLévy V Outcome of cancer patients considered for intensive care unit admission: a hospital-wide prospective study. J Clin Oncol. 2005;23(19):4406–13. doi: http://dx.doi.org/10.1200/JCO.2005.01.487. PubMed.