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Editorial

Risk Factors for Invasive Mechanical Ventilation in Cancer Patients

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Editorial

Classically, admission in intensive care units (ICUs) has been restricted for cancer patients [1]. However, acceptance of this type of patients has increased in the latest years [2], at least in part because of the expansion of oncological ICU in specialized hospitals.

Critically ill cancer patients can develop several complications and pathophysiological disturbances allowing acute respiratory failure (ARF) such as lung infiltrates pulmonary and non-pulmonary sepsis, postoperative status, as well as cardiovascular and non-septic pulmonary disorders [3]. ARF represents 37-64% of all ICU admission [4-7] and it is associated with a hospital mortality rate of 49-56% in this population [4,8].

Mechanical ventilation (MV) is a life-support method commonly used in the management of critically ill cancer patients. A recent prospective study reported an incidence of MV in cancer patients about 36% [9]. This frequency increases up to 50% when pulmonary opacity on chest X-ray is observed [4]. Cancer patients represent nearly 37% of all ventilated cases [10], and 57% of them have a ventilation time above 21 days whether MV is prolonged more than 7 days [11].

MV is associated with a high ICU and hospital mortality rates in cancer and non-cancer patients [10-14] and quality of life might be importantly affected in post-ICU setting [15]. In critically ill cancer patients, MV has been recognized as an independent risk factor for hospital mortality [8,16,17]. In addition, one-year survival is as low as 14% for those patients with prolonged MV [11].

Recently, Martos-Benítez et al. conducted a retrospective cohort study with 691 cancer patients admitted to an oncological ICU of a specialized institution. Authors reported a rate of severe ARF requiring invasive MV (SARF-MV) of 15,8%. Brain tumor (odds ratio [OR] 14,5; 95% CI 3,9 – 54,8; $p < 0,0001$), stage IV cancer (OR 3,5; 95% CI 1,3 – 9,5; $p = 0,016$), sepsis at ICU admission (OR 2,3; 95% CI 1,1 – 4,6; $p = 0,020$) and APACHE II score ≥ 20 points (OR 5,4; 95% CI 1,9 – 15,1; $p = 0,001$) were independently associated with SARF-MV in multivariate logistic regression analysis [3]. This is the first study designed to determine the risk factors for SARF-MV in critically ill cancer patients. Therefore, SARF would be reduced by the control of these risk factors, which may have an impact on outcomes.

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