Tissue perfusion alterations correlate with mortality in patients admitted to the intensive care unit for acute pulmonary embolism

Titre	Tissue perfusion alterations correlate with mortality in patients admitted to the intensive care unit for acute pulmonary embolism
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Résumé en anglais	We aimed to assess the relationship between alterations of tissue perfusion parameters at admission (highly predictive of mortality in septic shock) and outcome in patients admitted to the intensive care unit (ICU) for acute pulmonary embolism (PE). We conducted a retrospective study to analyze the association between arterial lactate level, skin mottling and urinary output, and 28-day mortality. Over a 22-year period, 317 patients with PE were identified but we finally analyzed 108 patients whose main diagnosis for ICU admission was acute PE. At admission, the sequential organ failure assessment score was 2 (0–6) and the simplified acute physiology score II was 29 (16–43). Thirty patients (28%) received vasopressors and 37 patients (34%) received thrombolytic therapy. Day 28 mortality rate was 25% (n = 27). When compared to 28-day survivors, nonsurvivor patients had higher lactate level (4.5 [2.3–10.3] mmol/L vs 1.4 [1–2.9] mmol/L, P < .0001), more frequent mottling around the knee area (56% vs 25%, P = .003) and a lower urinary output (during the first 6 hours) (0.35 [0–1] mL/kg/h vs. 0.88 [0.62–1.677] mL/kg/h, P = .0002). Mortality increased with the number of tissue perfusion alterations present upon admission, 8% for none, 21% for 1, 28% for 2, and finally reached 85% for 3 tissue perfusion alterations (P < .0001). In a multivariate analysis, the relationship between the number of tissue perfusion alterations and 28-day mortality was maintained after adjustment on the presence of shock and right ventricular dilation at admission. In ICU patients admitted for acute PE, tissue perfusion alterations correlated with 28-day mortality independently of blood pressure and right ventricular dilation.
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