ANALYSIS OF THE FACTORS ASSOCIATED WITH MORTALITY IN PATIENTS WITH COVID-19-RELATED RESPIRATORY FAILURE UNDERGOING INVASIVE MECHANICAL VENTILATION: OUR EXPERIENCE

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Argomento: COVID-19

PURPOSE

In a historic moment of limited resources and emergency situation, the ability of making a good triage is crucial. Our purpose was to identify factors related with a worst outcome, both at the admission and during ICU stay.

METHODS

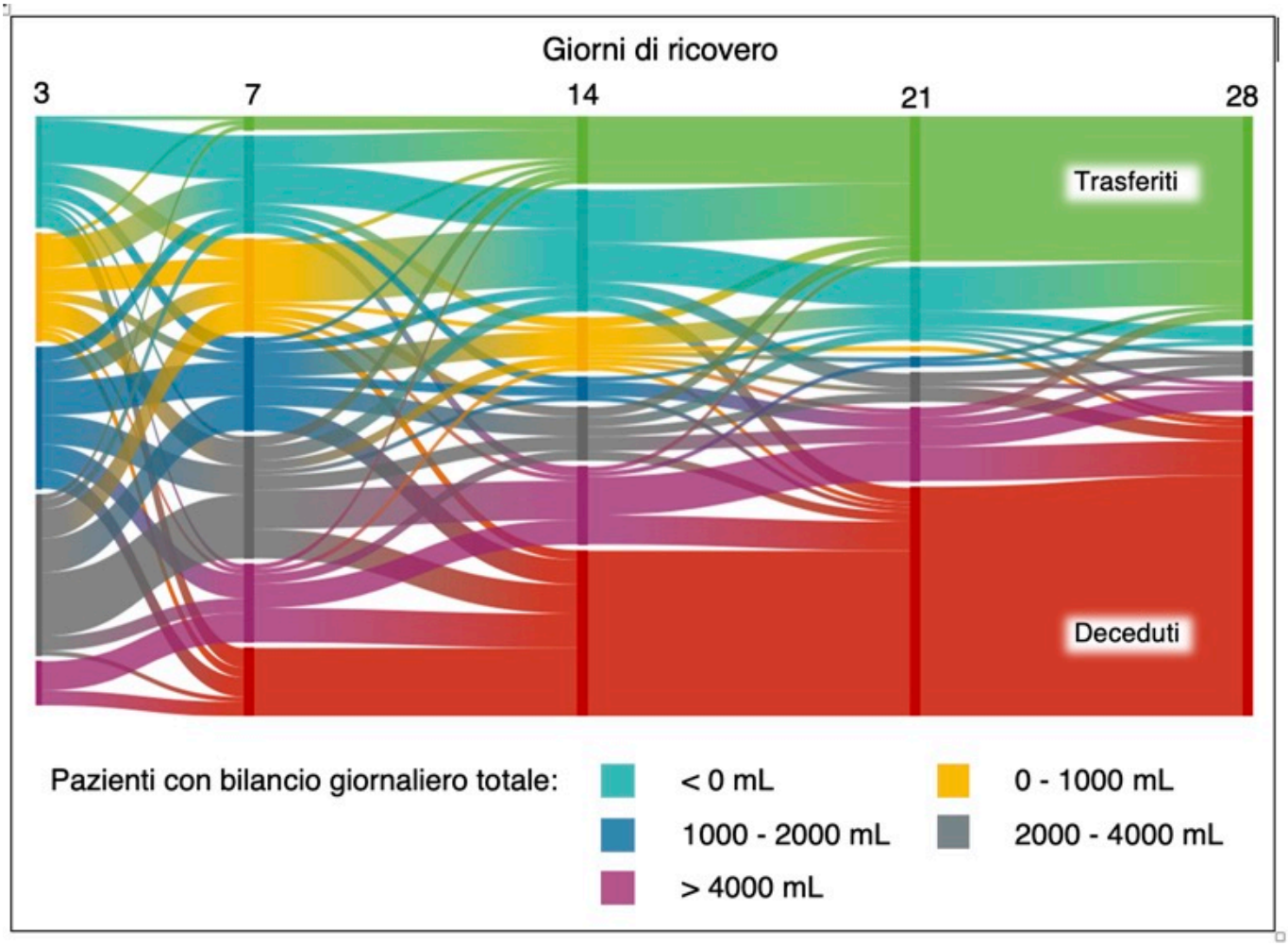
We retrospective analyzed all the patients admitted to our ICU with COVID-19 related ARDS who underwent invasive mechanical ventilation. The primary outcome was 28-day mortality.

RESULTS

123 patients were enrolled in the period 1 December 2020 – 31 August 2021.

The mean P/F ratio measured at the 2^{nd} day of mechanical ventilation was significantly higher in the survivors (167±46 vs 137±42 mmHg, p=<0.001). The difference in mean P/F ratio between survivors and deceased increased over the ICU stay, because the fraction of oxygen could be reduced in the group of survivors (7^{th} day: 176±41 vs 133±41 mmHg, p>0.001; 14^{th} day: 168±69 vs 126±59 mmHg, p=<0.001). Including PEEP levels among the evaluated variables, by measuring the PaO_2/FiO_2*PEEP ratio, the two cohorts diverged from the 6^{th} day; this probably corresponds to the beginning of the weaning from mechanical ventilation, which was successful only in survivors (2^{nd} day: 16±7 vs 17±6 mmHg/cmH_2O, p=0.499; 7^{th} day: 15±5 vs 17±6 mmHg/cmH_2O, p=0.038; 14^{th} day: 17±9 vs 24±14 mmHg/cmH_2O, p=0.007).

We also examined the management of fluid therapy, an important aspect in the treatment of the critical patient, especially in the context of an interstitial pneumonia. The fluid balance was calculated recording input and output and estimating the perspiration of the intubated patient. Most patients who died had a highly positive median fluid balance, while patients who were discharged had mostly a negative median fluid balance (4081 [1932; 6817] vs -1968 [-4934; 2648] L, p=<0.001). Moreover, we found an inverse relationship between the mean daily P/F ratio and the cumulative fluid balance (r 0.63; r^2 0.40).


Giorni di ricovero
3
7
14
21
28
Trasferiti
Deceduti
Pazienti con bilancio giornaliero totale:
< 0 mL
0 - 1000 mL
1000 - 2000 mL
2000 - 4000 mL
> 4000 mL