Review of “Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study”


One-minute summary

- The authors report on a single-center, retrospective, observational study of critically ill patients with coronavirus disease 2019 (COVID-19) (N=52) who were admitted to hospital in Wuhan from December 24, 2019 to January 26, 2020.
- The study’s primary outcome was death by 28 days after intensive care unit (ICU) admission.
- Of the 52 critically ill patients:
  - Median age: 59.7 years (standard deviation (SD) = 13.3)
  - ≥60 years: 52%
  - Male: 67%
- Clinical aspects of critically ill patients:
  - Chronic medical illness: 40%
  - Symptoms: fever (98%), cough (77%), dyspnea (64%)
  - Bilateral infiltrates on chest x-ray: 100%
  - Median time from symptom onset to x-ray confirmation: 5 days (inter-quartile range (IQR): 3–7)
  - Median time from symptom onset to ICU admission: 9.5 days (IQR: 7.0–12.5)
  - 71% (n=37) required mechanical ventilation
- Of the 32 (62%) patients who died, the median duration from ICU admission to death was 7 days (IQR: 3-11).
- Compared to survivors (n=20), those who did not survive were:
  - Older: 64.6 years (SD = 11.2) vs. 51.9 years (SD = 12.9)
  - More likely to have chronic medical illnesses: 53% vs. 20%
  - More likely to develop ARDS: 81% vs. 45%
  - More likely to receive mechanical ventilation: 94% vs. 35%
- The authors conclude that mortality of critically ill COVID-19 patients is high, survival time of non-survivors is approximately 1-2 weeks after ICU admission and patients >65 years with comorbidities and ARDS are at higher risk of death.
Additional information

- The authors defined critically ill patients as those admitted to the ICU who required mechanical ventilation or had a fraction of inspired oxygen of ≥ 60%.
- **Fever did not develop in 6 (11.5%) critically ill patients until 2-8 days** after the onset of other symptoms related to COVID-19.
- **65% of survivors were treated with antivirals** compared to 31% of non-survivors.
- 8 of the 20 survivors were discharged. Of the remaining 12 survivors, 3 were still receiving invasive mechanical ventilation, including one who was also on extracorporeal membrane oxygenation at 28 days.

PHO reviewer’s comments

- The authors acknowledge that the sample size for critically ill patients was relatively low given the study’s retrospective nature; however, they encourage larger cohort studies to describe the clinical course and outcome in those severely ill with COVID-19.
- Further deaths could have occurred after the final follow-up date of February 9, 2020.

Citation


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