

REFERENCE

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SUMMARY

Among patients with severe community-acquired pneumonia being treated in the ICU, hydrocortisone therapy reduced the rate of death by day 28 compared to the placebo group. Early hydrocortisone therapy was also associated with a decreased risk of endotracheal intubation and the initiation of vasopressors. The study suggests that glucocorticoids have a potential benefit in reducing mortality among patients with severe community-acquired pneumonia in the ICU setting. However, further research is needed to investigate the potential risks and benefits of this therapy.

STUDY OBJECTIVE

- To determine whether the anti-inflammatory and immunomodulatory effects of glucocorticoids could decrease mortality among patients with severe community-acquired pneumonia.

STUDY DESIGN

- This was a phase 3, multicenter, double-blind, randomized, controlled trial conducted in 31 French centers.

STUDY INTERVENTION & COMPARISON

- The intervention group received intravenous hydrocortisone (200 mg daily for either 4 or 8 days as determined by clinical improvement, followed by tapering for a total of 8 or 14 days). The comparison group received placebo.

RESULTS

- **Primary Outcome**
 - Death at 28 days.
 - 25 of 400 patients (6.2%) in the hydrocortisone group and in 47 of 395 patients (11.9%) in the placebo group (absolute difference, -5.6 percentage points; 95% CI, -9.6 to -1.7; P = 0.006).
- **Secondary Outcomes**
 - Endotracheal intubation among patients not undergoing mechanical ventilation at baseline and the initiation of vasopressors among patients not receiving them at baseline.
 - 40 of 222 (18.0%) in the hydrocortisone group and in 65 of 220 (29.5%) in the placebo group (hazard ratio, 0.59; 95% CI, 0.40 to 0.86)

ADDITIONAL READINGS

1. GBD 2019 LRI Collaborators. Age-sex differences in the global burden of lower respiratory infections and risk factors, 1990-2019: results from the Global Burden of Disease Study 2019. *Lancet Infect Dis* 2022; 22: 1626-47.
2. Ramirez JA, Wiemken TL, Peyrani P, et al. Adult hospitalized with pneumonia in the United States: incidence, epidemiology and mortality. *Clin Infect Dis* 2017; 65: 1806-12.
3. Heron M. Deaths: leading causes for 2019. *Natl Vital Stat Rep* 2021; 70: 1-114.