POEMs

Steroids Beneficial As Adjunctive Treatment for Community-Acquired Pneumonia

Clinical Question

Should steroids be used as adjunctive therapy for patients with community-acquired pneumonia (CAP)?

Bottom Line

Moderate-quality to high-quality evidence suggests that steroids, when added to antibiotics and usual care, can improve outcomes in the treatment of CAP. Benefits include reduced hospital length of stay, decreased time to clinical stability, and lower rates of mechanical ventilation and acute respiratory distress syndrome. Steroids may also play a role in preventing deaths, especially in patients with severe CAP; however, the certainty of this evidence is not as clear. Given varying treatment regimens used in the individual studies, the appropriate steroid formulation, dosage, and duration of steroids cannot be elucidated from the current set of data. (Level of Evidence = 1a)

Synopsis

These authors searched Medline, Embase, and the Cochrane Register to find randomized controlled trials that compared the use of steroids with placebo in adults with CAP. Two reviewers independently evaluated studies for eligibility, extracted data, and assessed the included studies for risk of bias. Five of the 13 included studies, whose population made up 70% of the total sample population, had low risk of bias. The treatment groups in the individual studies received different steroid preparations, routes of administration, dosages, and duration of treatment. All groups otherwise received antibiotics and usual care for CAP.

High-quality evidence showed that the use of steroids decreased hospital length of stay by one day (three studies: mean difference = −1.0 day; 95% confidence interval [CI], −1.79 to −0.21) and decreased time to clinical stability by 1.22 days (five studies: mean difference = −1.22 days; 95% CI, −2.08 to −0.35). Moderate-quality evidence showed that the use of steroids decreased the need for mechanical ventilation (five studies: relative risk [RR] = 0.45; 95% CI, 0.26 to 0.79) and the incidence of acute respiratory distress syndrome (four studies: RR = 0.24; 95% CI, 0.10 to 0.56). Finally, data from the 12 trials that assessed all-cause mortality revealed a trend toward decreased risk of death in the steroid group. The difference between the two groups for this end point became statistically significant when only the trials that met the criteria for severe pneumonia were included (six studies: RR = 0.39; 95% CI, 0.20 to 0.77). Although steroid use, not surprisingly, increased the risk of significant hyperglycemia (six studies: RR = 1.49; 95% CI, 1.01 to 2.19), there were no differences detected in the rates of gastrointestinal bleeds, severe neuropsychiatric complications, or rehospitalizations.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Self-funded or unfunded

Allocation: Uncertain

Setting: Inpatient (any location)

Reference: *Siemieniuk RA, Meade MO, Alonso-Coello P, et al. Corticosteroid therapy for patients hospitalized with community-acquired pneumonia: a systematic review and meta-analysis.* Ann Intern Med. *2015;163(7):519-528.*

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