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Intravenous methylprednisolone pulses in hospitalised patients with severe COVID-19 pneumonia: a double-blind, randomised, placebo-controlled trial

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Shareable abstract (@ERSpublications)
The quick and strong anti-inflammatory effect of pulse glucocorticoid therapy seems to be of no benefit in COVID-19 pneumonia https://bit.ly/3IkUmSn

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Abstract

Rationale Pulse glucocorticoid therapy is used in hyperinflammation related to coronavirus disease 2019 (COVID-19). We evaluated the efficacy and safety of pulse intravenous methylprednisolone in addition to standard treatment in COVID-19 pneumonia.

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Methods In this multicentre, randomised, double-blind, placebo-controlled trial, 304 hospitalised patients with COVID-19 pneumonia were randomised to receive 1 g of methylprednisolone intravenously for three consecutive days or placebo in addition to standard dexamethasone. The primary outcome was the duration of patient hospitalisation, calculated as the time interval between randomisation and hospital discharge without the need for supplementary oxygen. The key secondary outcomes were survival free from invasive ventilation with orotracheal intubation and overall survival.

Results Overall, 112 (75.4%) out of 151 patients in the pulse methylprednisolone arm and 111 (75.2%) of 150 in the placebo arm were discharged from hospital without oxygen within 30 days from randomisation. Median time to discharge was similar in both groups (15 days, 95% CI 13.0–17.0 days and 16 days, 95% CI 13.8–18.2 days, respectively; hazard ratio (HR) 0.92, 95% CI 0.71–1.20; p=0.528). No significant differences between pulse methylprednisolone and placebo arms were observed in terms of admission to intensive care unit with orotracheal intubation or death (20.0% *versus* 16.1%; HR 1.26, 95% CI 0.74–2.16; p=0.176) or overall mortality (10.0% *versus* 12.2%; HR 0.83, 95% CI 0.42–1.64; p=0.584). Serious adverse events occurred with similar frequency in the two groups.

Conclusions Methylprenisolone pulse therapy added to dexamethasone was not of benefit in patients with COVID-19 pneumonia.