

Methylprednisolone use in children with severe pneumonia caused by SARS-CoV-2

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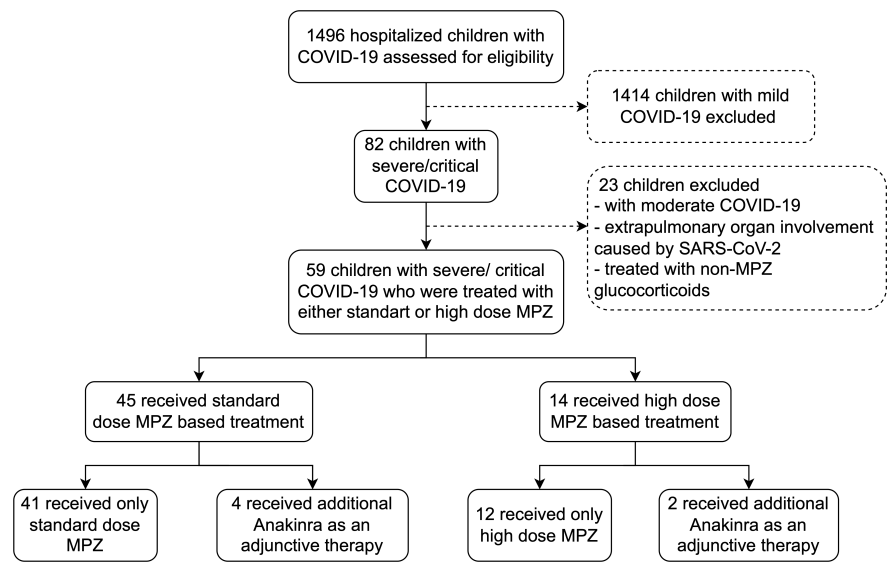
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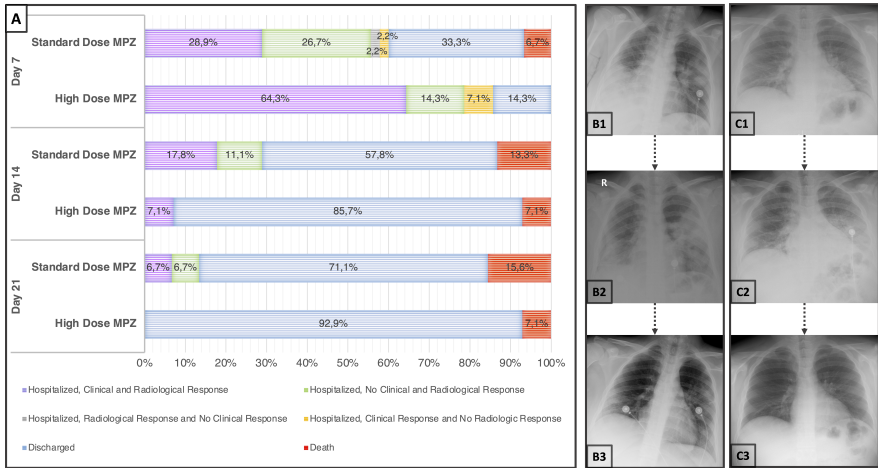
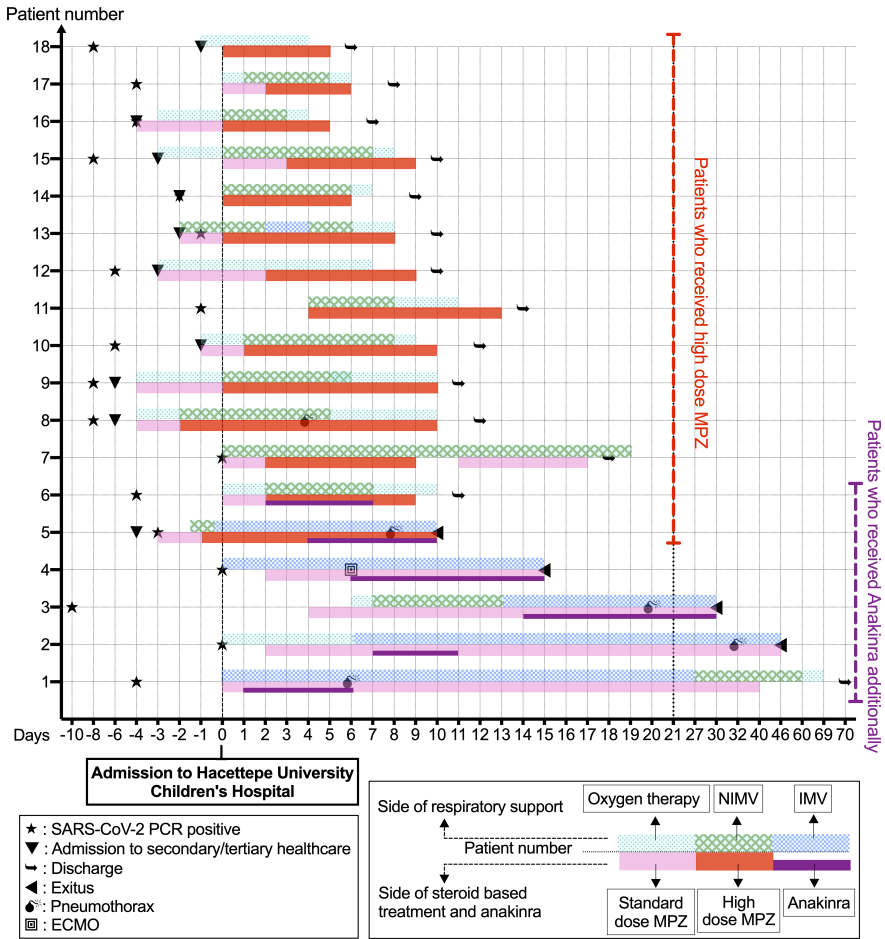
Abstract

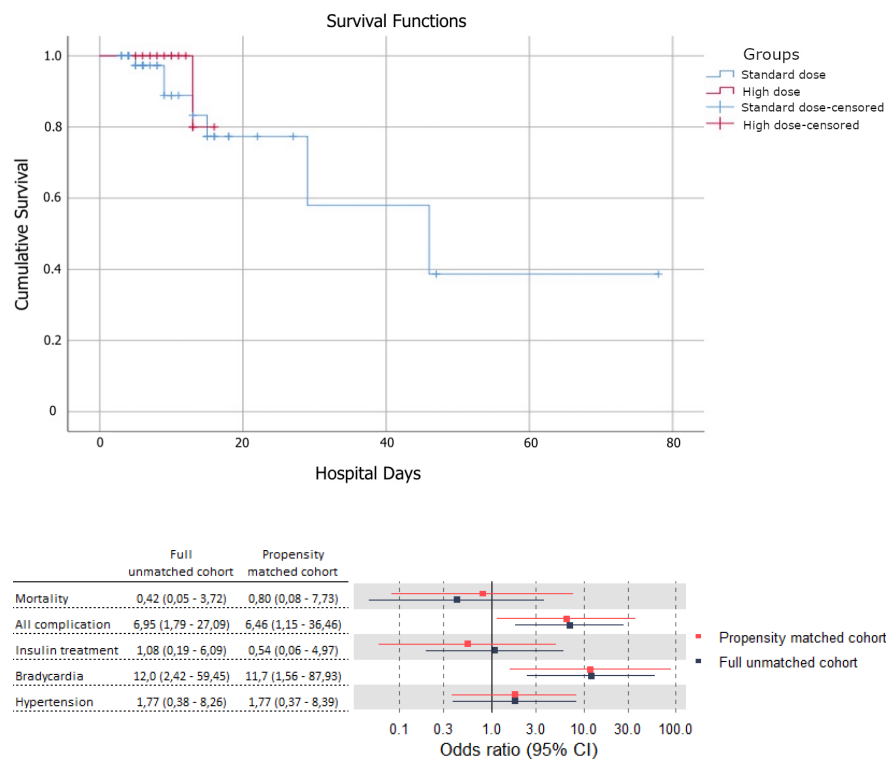
Objective: This study aimed to evaluate the effectiveness and optimal use of corticosteroids in children with severe coronavirus disease 2019 (COVID-19) pneumonia. **Methods:** We conducted a retrospective study and included patients (aged <18 years) with severe COVID-19 pneumonia and/or acute respiratory distress syndrome (ARDS) who received standard doses (2–4 mg/kg/day) and high doses (>250 mg/day) of methylprednisolone (MPZ). We adjusted for patients on steroid treatments with a propensity score and patient survival. **Results:** Fifty-nine patients were included: 61% were male, the median age was 8 (interquartile range [IQR], 2–15) years. The overall survival was 84.4% in patients treated with standard-dose MPZ (n = 45, 76.3%) and 92.2% in patients treated with high-dose MPZ (n = 14, 23.7%; p = 0.67). The demographic, clinical, and laboratory data didn't differ significantly after propensity score matching, apart from bradycardia, which was a prominent feature of the high-dose group. The clinical and radiological response rates on Day 7 were higher and the need for invasive mechanical ventilation (IMV) was lower in the high-dose group. **Conclusion:** Pulse MPZ treatment seems to result in better clinical and radiological responses, with less need for IMV, although the mortality rate doesn't differ between standard and high-dose regimens of MPZ.

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