

# A protocol-based checklist for the management of coronavirus disease 2019

Dear Editor,

The emergence of the coronavirus disease 2019 (COVID-19) pandemic has driven universities, hospitals, and health-care facilities to develop effective and practical treatment and management protocols. Although treatment protocols are similar in many aspects and provide clear outlines, many physicians manage COVID-19 patients based on previous guidelines or personal clinical experiences, which have caused treatment inconsistency and mismanagement among COVID-19 patients.

To achieve this goal, we sought to develop a COVID-19 treatment checklist to be used as a more uniform management approach among physicians alongside local protocols.

This checklist will guide physicians to treatment decisions that are made on a daily basis based on patients' characteristics. The checklist can also be used as a convenient tool for a physician with less expertise in the field of infectious diseases.

The compiled checklist is comprised of several sections as follows:

1. Oxygen management: Oxygen therapy is one of the mainstays of COVID-19 management and the first row that should be completed in our checklist. Any hypoxemia should be diagnosed and addressed before other procedures are undertaken<sup>[1]</sup>
2. Fluid therapy is administered based on the patients' blood pressure, presence or absence of hypovolemic or hemorrhagic shock, and volume status. The use of diuretics is also provided as a subsection to fluid therapy in the case of overload
3. Corticosteroid treatment: Corticosteroid treatment has been shown to have mortality benefits, especially in the critically ill. Therefore, a separate section has

been dedicated to corticosteroid treatment. Usually, 8 mg of dexamethasone is given daily intravenously for up to 10 days. Higher doses can cause adverse events such as osteoporosis and elevated blood glucose levels<sup>[2]</sup>

4. Cytokine storm: This section is divided into two sections: diagnostic criteria and treatment. When cytokine storm clinical data are met, the syndrome is confirmed with laboratory testing. Management is limited to dexamethasone and methylprednisolone in different doses. Tocilizumab is also mentioned at the end of the checklist under the subheading "miscellaneous treatments"<sup>[3]</sup>
5. Anticoagulation and gastrointestinal care: Based on national protocols, we provide these two sections for prophylactic measures. Prophylactic anticoagulation based on patient body mass index and hospitalization status is provided. Acid blocking agents are also given based on patient risk factors and hospitalization status<sup>[4]</sup>
6. Antibiotics and antiviral therapy: Based on designated criteria such as refractory fever, decreased consciousness, and oxygen saturation, as well as the physician's expert opinion, antiviral therapy (remdesivir) and antibiotic treatment are initiated.

The last two sections of the checklist are dedicated to consultation with other specialists of the hospital and miscellaneous treatments.

To our knowledge, checklists provided so far have been developed with a focus on self-assessment and safety measures for the health-care providers during procedures, such as intubation, and there has not been any management checklist for COVID-19.<sup>[5]</sup>

Based on our preliminary findings, we think that with the use of this checklist, COVID-19 management will be more uniform among hospital units and physicians, mismanagement or false treatments will be minimized, and patient outcomes will be improved.

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## Conflicts of interest

There are no conflicts of interest.

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