



# همایش مجازی یافته های پژوهشی دانشکاه علوم پزشکی گناباد مرتبط با کووید-۱۹

## Dexmedetomidine to facilitate noninvasive ventilation in the COVID-19 patients

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**Introduction:** Noninvasive ventilation (NIV) has recently emerged as a fundamental respiratory support for patients with COVID-19, often avoiding intubation. However, some patients have difficulty tolerating this therapy due to anxiety. Compliance with NIV is often challenging, due to agitation and anxiety associated with the illness as well as the ventilation facemask; such a scenario does not allow the patient to be comfortably and adequately ventilated. Furthermore, acute hypoxemia can be accompanied by patient's agitation, which may lead to NIV failure. physicians have withheld sedation from these patients due to concerns of loss of airway protection and respiratory depression.

There have been good results with the use of **dexmedetomidine** (PRECEDEX) to facilitate NIV. The aim of this study was to review the use of Dexmedetomidine in the COVID-19 patients during the NIV.

**Materials and Methods:** In this review study, data gathering was done by searching electronic resources including Google search engine and scientific databases.

**Results:** The potent and selective  $\alpha_2$ -adrenoceptor agonist dexmedetomidine exerts sedative and analgesic effects and has been widely used as an adjunct for anaesthesia, analgesia, and sedation in the ICU. In addition, dexmedetomidine has both cytoprotective and anti-inflammatory properties. Well known pharmacologic properties of the drug, namely the lack of respiratory depression and its anti-delirium effects, as well as other possible physiologic effects, suggest potential benefit for patients being managed with a delayed intubation approach such as NIV.

**Keywords:** Dexmedetomidine, NIV, COVID-19

**Conclusions:** Studies propose that dexmedetomidine should be considered when sedation is required, during the NIV in COVID-19. When deep sedation is required, dexmedetomidine may be used as a sedative adjunct together with other sedatives, such as propofol or midazolam. Its use as a single agent may also be considered to facilitate noninvasive ventilation or during liberation from invasive mechanical ventilation.

### Refernce:

Stockton J, Kyle-Sidell C. Dexmedetomidine and worsening hypoxemia in the setting of COVID-19: A case report. Am J Emerg Med. 2020;38(10):2247.e1-2247.e2. doi:10.1016/j.ajem.2020.05.066.

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