

THE EFFECT OF HFNC ON MORTALITY AND  
ICU STAY TIME IN ACUTE RESPIRATORY  
FAILURE DUE TO COVID-19 PNEUMONIA

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Our study was planned retrospectively in 5 Covid Cohort intensive care units in our hospital to include the dates 15.03.2020 / 15.05.2020. The study started after getting approval from the local ethics committee of our hospital, ethics committee of the Ministry of Health .

All patient data, accepted for Covid cohort, between 15 March and 10 May 2020, were scanned. In our study, patients over the age of 18 years, who were admitted to the ICU unit due to acute respiratory failure due to Covid 19 pneumonia, whose diagnosis was confirmed by PCR test, and who received a conventional oxygen therapy (COT) with a reservoir mask were included. Data from patients who is with ongoing primary pulmonary pathology other than Covid -19 pneumonia, Glaskov coma score is below 12 or respiratory acidosis in the initial arterial blood gas were not included in the study.

The diagnosis of Covid-19 was made by PCR (Polymerase Chain Reaction) test, and the diagnosis of pneumonia was made by clinical and radiological findings. Acute respiratory failure is defined as espite the conventional oxygen treatment applied at 4 lt / min with a reservoir mask, the patient's ratio of PaO<sub>2</sub> / FiO<sub>2</sub> (ratio of partial oxygen pressure to inhaled oxygen fraction) is less than 300. HFNC could not be applied to all patients because the number of patients admitted to the ICU was above the unit and device capacity of HFNC. A selection criterion has not been established for this treatment and the order of application of the patients has been taken into consideration.

The study is divided into two groups. In the first group (group H), the data of patients undergoing HFNC treatment, and in group II (Group K), the data of patients who received COT

with a reservoir mask were included.

In HFNC support, the current air temperature is 31-37 degrees, the flow rate is 30-60 l / min, and the FiO<sub>2</sub> value is targeted so that saturation is 93% and above. Initially, continuous treatment was applied intermittently after the PaO<sub>2</sub> / FiO<sub>2</sub> ratio exceeded 250 and clinical well-being occurred.

In patients in Group K, fingertip saturation was targeted as 93% and above, and a COT was applied with a reservoir mask with a flow rate of 6-15 l / min. The flow rate was calculated using the formula of FiO<sub>2</sub> (%) = 21 + 4 \* (liters / min) in patients undergoing COT. Noninvasive mechanical ventilation was applied to patients who could not be provided with adequate clinical and laboratory well-being in both groups (PaO<sub>2</sub> / FiO<sub>2</sub> ratio below 150) and invasive mechanical ventilation if this was insufficient

Patient data were taken from our hospital's electronic information system and nurse observation records. Demographic data of patients in both groups, arterial blood gas values studied before treatment, PaO<sub>2</sub> / FiO<sub>2</sub> rates, orotracheal intubation times, intensive care hospitalization times, and forms of discharge from the intensive care unit (death or discharge) were recorded. Short-term mortality was defined as deaths during ICU hospitalization or after hospitalization for up to 28 days.