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The use of intra-operative ventilation within the treatment of patients with COVID-19.

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Abstract
Non-invasive ventilation (NIV) may be a methodology of metabolism support, within which a mask is employed because the main interface, which might be simply applied and additionally simply disconnected from the patient's tract. The study enclosed patients admitted to the medical care unit of the surgical clinic of the AMU from Apr one to day, 2020. NIV has important benefits over ancient mechanical ventilation. however it should be remembered that even in old hands, NIV is eminent solely in 75%–90% of all cases, that depends on several factors, like the severity of acute metabolism failure, coaching and skill of medical personnel, and also the place of metabolism support. like many sorts of medical aid, operations, and technologies, improvement within the results of this methodology will be expected as expertise is gained.

Keywords: COVID-19, Non-invasive ventilation, Mechanical ventilation.

Introduction
Non-invasive ventilation (NIV) may be a methodology of metabolism support, within which a mask is employed because the main interface, which might be simply applied and additionally simply disconnected from the patient's tract. The harmful effects of the treatment of metabolism distress syndrome (RDS) with invasive ventilation have junction rectifier to a deeper study of non-invasive ventilation ways (NIV). The key to success with NIV is correct patient choice. it's necessary to stress that a strict choice of patients is needed for NIV, the most criteria square measure the preservation of consciousness and patient consent, additionally as stable hemodynamics. supported in depth expertise exploitation NIV in 147 patients with white lung, Antonelli and count [1-3].Recommend avoiding NIV in patients with SAPS bigger than thirty four points. consistent with amphibian genus and colleagues, acidosis and severe hypoxemia square measure predictors of a poor response to NIV patients with white lung. the chance of exploitation NIV in well-selected patients with white lung has been shown in many studies [4-8].

The authors of all studies dedicated to NIV square measure unanimous therein there square measure considerably fewer complications once used than NIV with ancient mechanical ventilation. Mask ventilation permits you to attenuate the amount of infectious and "mechanical" complications. healthcare facility respiratory disorder may be a common complication of respiratory organ ventilation and may be a vital consider crucial patient outcome [9-11]. With NIV, there's no direct contact with the trachea (endotracheal tube, aspiration catheter), the patient will unleash mucous secretion when removing the mask. within the largest study by Meduri et al. including 158 patients World Health Organization received NIV, healthcare facility respiratory disorder was detected in just one patient. Studies show that complications of NIV, as a rule, don't need stop of metabolism support [12-19]. the foremost common of those square measure facial skin sphacelus, redness, nasal irritation, transient hypoxemia, general discomfort, aerophagia, leakage. Erosions and sphacelus of the skin square measure fashioned most frequently within the place of the best pressure of the mask on the skin of the face (usually the nose bridge). consistent with varied studies, they occur in 6%–18% of cases. Erosions and sphacelus of the skin aren't a heavy complication, as a result of they sometimes heal terribly quickly (after 2-7 days).

The disadvantage of NIV is that the want for patient motivation. consistent with a meta-analysis conducted by Muir, the NIV procedure was discontinued thanks to intolerance to patients with the presence of a mask in thirty seven of 747 cases (5%) of exploitation NIV in ONE [20]. This methodology is much not employed in patients with severe impaired consciousness (the range of points on the urban center scale is a smaller amount than 9), as a result of these patients want protection of the tract and need frequent sanitation of the tracheobronchial tree, that is tough to try and do once exploitation NIV. sadly, in our clinical follow, NIV isn't wide used, whereas the expertise of the many countries has incontestible the advantages of a wider implementation of NIV. as an example, in the USA, the employment of NIV over one decade multiplied by 462%, that junction rectifier to a decrease in cases of invasive ventilation by forty second and was typically related to a decrease in hospital mortality [5]. For a wider implementation of NIV, associate adequate level of providing high-quality instrumentation is vital. the employment of high-quality respirators is lighter for patients, and also the ease and ease of setting metabolism support parameters square measure necessary for a doctor [6]. a large vary of varieties and sizes of masks is additionally necessary. In recent years, makers of metabolism instrumentation have given a large choice of various masks and helmets that square measure snug for patients, that reduces the chance of mechanical complications.

The Aim of the Study
To determine the advantages of NIV in ODN patients with COVID-19.

Study Material
The study enclosed patients admitted to the medical care unit of the surgical clinic of the AMU from Apr one to day, 2020.

The Results of the Study
Our expertise with NIV has shown that the majority patients treated with NIV tolerate this procedure comparatively well already at the initial stage. However, in an exceedingly range of patients, throughout the primary minutes or hours of NIV, no improvement (clinical indicators and gas exchange) is determined or the procedure is poorly tolerated, the proportion of such patients is typically regarding 15%– thirty fifth. Usually, a metabolism support session of 2–3 hours is comfortable to predict the success of the NIV or response to the NIV. In traditional follow, the effectiveness of NIV medical aid is apparent with a straightforward examination - there's a decrease within the frequency of metabolism movements and also the work of auxiliary metabolism muscles. Objective markers of the effectiveness of mask ventilation square measure changes in blood gas parameters: a rise in pH scale and a decrease in PaCO2. a brief NIV session permits you to spot not solely patients World Health Organization will be effectively managed with NIV within the future, however additionally patients with a poor response World Health Organization later on want imperative cartilaginous tube

intromission and association to a ventilator. expertise shows that longer tries to use NIV while not achieving a plain improvement solely delay the time of the employment of mechanical ventilation, that considerably will increase the chance of multiplied metabolism failure, associate adverse outcome, up to a deadly one. Using NIV, we have a tendency to came to the conclusion that, in most cases, NIV medical aid failures square measure detected quite early - within the 1st hours from the initiation of metabolism support, however, in some patients, NIV medical aid failure manifests itself later 24–48-72 hours when the initial improvement. Lack of improvement in consciousness or carbon dioxide acidosis twenty four hours when onset is NIV another predictor of NIV failure.

The physiological effects of NIV square measure as follows:

Preservation of spontaneous respiration and freelance movements of the diaphragm.

Reduction of negative effects on hemodynamics. Reduced work to confirm respiration.

NIV additionally has the subsequent economic significance:
Reduction within the average length of keep within the medical care unit compared with mechanical ventilation.

Reduction within the period of hospitalization.

50% reduction within the want for mechanical ventilation. Reduction in treatment prices.

Mortality reduction in skilled use of NIV.
The study known the subsequent advantages of non-invasive ventilation: Prevention of " mechanical " and infectious complications related to intromission, reducing the chance of developing infectious complications and mechanical injury (trauma to the speech organ and trachea, stricture and hurt from the higher metabolism tract).

Preservation of natural protecting reflexes of the higher tract.

Preservation of physiological cough, the patient's ability to speak, swallow, eat, cough up mucous secretion.

Increase patient comfort.

Reduced want for muscle relaxants, opioids and tranquilizers. the chance of separate use and substitution from the equipment.

In our clinic, NIV was performed exploitation sage ELISA ventilator respirators in CPAP+PSV mode through a mask. Used commonplace masks from Drager (Germany) or Respironics (USA). to work out the parameters of the gas and acid-base composition of the blood, associate ABL500 gas instrument with associate OSM3 measuring instrument (Radiometer, Denmark) was used. Indicators of the perform of bodily process were recorded from the show of the respirator. All knowledge were recorded right away before the beginning of ventilation. the amount of PEEP and pressure support was set one by one, supported the precise clinical state of affairs. The ventilation parameters needed by patients were as follows: PEEP from five to twelve cm of water, PSV from zero to fourteen cm of water. Art, FiO2 - from zero.3 to 0.6. At the initial stage, auxiliary ventilation was administrated in an exceedingly continuous mode. Further, a gradual decrease in metabolism support was administrated in accordance with the degree of clinical improvement, when that they switched to NIV sessions for many hours daily till it had been utterly off. The criterion for eminent NIV was the development of the blood gas composition and also the ability to avoid endotracheal intromission.

Discussion and Conclusion

NIV has important benefits over ancient mechanical ventilation. however it should be remembered that even in old hands, NIV is eminent solely in 75%–90% of all cases, that depends on several factors, like the severity of acute metabolism failure, coaching and skill of medical personnel, and also the place of metabolism support. like many sorts of medical aid, operations, and technologies, improvement within the results of this methodology will be expected as expertise is gained.

The use of NIV in severe metabolism distress syndrome is unsure. High minute respiratory organ ventilation (>11 L/min) throughout NIV will predict non-invasive respiratory organ ventilation.

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