Journal of Intensive and Critical Care
ISSN:2471-8505

Open access Opinion

Impact of High Flow Nasal Cannula on Mechanical Ventilator Term in Bronchiolitis Patients

Stephanie Nonas*

Department of Pulmonary and Critical Care Medicine, Oregon Health and Science University, USA

INTRODUCTION

Ventilators are undoubtedly crucial tools in modern medicine, offering life-saving respiratory support to patients with compromised lung function. However, like any medical intervention, the use of ventilators is not without its challenges and potential side effects. While these side effects are often outweighed by the benefits of ventilator support, it's essential to recognize and manage them effectively to ensure optimal patient outcomes. In this article, we will delve into the various side effects associated with ventilator use, exploring their causes, potential consequences, and strategies for mitigating their impact. Before delving into the potential side effects of ventilator use, it's crucial to acknowledge the vital role these devices play in critical care. Ventilators provide essential support to patients who cannot breathe adequately on their own due to conditions such as Acute Respiratory Distress Syndrome (ARDS), pneumonia, or trauma. They alleviate respiratory distress, enhance oxygenation, and buy time for healthcare professionals to diagnose and treat underlying issues. One of the most significant concerns in ventilator management is the development of Ventilator-Associated Pneumonia (VAP). Patients on ventilators are at an increased risk of developing lung infections due to the invasion of bacteria into the lower respiratory tract through the endotracheal tube. VAP can lead to worsened lung function, prolonged hospital stays, and increased healthcare costs.

DESCRIPTION

Healthcare providers combat VAP by following strict infection control measures, including regular oral care, elevating the head of the bed to reduce aspiration risk, and adhering to protocols for changing ventilator circuits and endotracheal tubes. Barotrauma refers to physical damage caused by changes in pressure, particularly high airway pressure. While ventilators aim to provide respiratory support, excessive pressure can lead to barotrauma, causing trauma to delicate lung tissues. This can result in conditions such as pneumothorax (collapsed lung) and pneumomediastinum (air in the chest cavity). To mitigate this risk, healthcare providers closely monitor airway pressures and adjust ventilator settings accordingly. Protective ventilation strategies, such as low tidal volume ventilation, have also been developed to minimize the risk of ventilator-induced lung injury. Ventilator-Induced Lung Injury (VILI) encompasses a range of conditions caused by the mechanical forces applied to the lungs during ventilation. This can lead to inflammation, increased permeability of lung tissues, and compromised gas exchange. While the goal of ventilation is to support respiratory function, inappropriate settings or prolonged use can exacerbate lung damage. To reduce the risk of VILI, healthcare professionals use lung-protective ventilation strategies, including lower tidal volumes, lower plateau pressures, and permissive hypercapnia (allowing slightly elevated carbon dioxide levels) when appropriate.

CONCLUSION

Ventilator-Associated Events (VAEs) are a broader category that includes not only pneumonia and lung injury but also other complications associated with ventilator use. These can include cases of Ventilator-Associated Conditions (VACs) where patients exhibit worsening oxygenation or respiratory distress, as well as cases of Infection-Related Ventilator-Associated Complications (IVACs). Healthcare providers and infection control teams closely monitor patients on ventilators for signs of VAEs and work to identify and address contributing factors promptly. While ventilators assist patients in breathing, they can also contribute to diaphragm dysfunction over time. The diaphragm, a primary muscle involved in breathing, can become weakened and atrophied due to disuse during mechanical ventilation.

Received:	01-August-2023	**Manuscript No:**	IPJICC-23-17775
Editor assigned:	03-August-2023	**PreQC No:**	IPJICC-23-17775 (PQ)
Reviewed:	17-August-2023	**QC No:**	IPJICC-23-17775
Revised:	22-August-2023	**Manuscript No:**	IPJICC-23-17775 (R)
Published:	29-August-2023	**DOI:**	10.35248/2471-8505-9.4.38

Corresponding author Stephanie Nonas, Department of Pulmonary and Critical Care Medicine, Oregon Health and Science University, USA, E-mail: stephanie_nonas@ohsu.edu

Citation Nonas S (2023) Impact of High Flow Nasal Cannula on Mechanical Ventilator Term in Bronchiolitis Patients. J Intensive Crit Care. 9:38.