

How effective is the use of Early Prone Positioning in COVID-19 related Acute Respiratory Distress Syndrome patients? A Literature Review

Lana Alabbasi, Heba Alkoheji, Manal Althawadi and Shaista Salman

School of Medicine, RCSI, Bahrain

Introduction

Research has shown early prone positioning (PP) to be a simple and safe intervention that alters the blood flow and alveolar ventilation mechanics, leading to a favorable outcome in patients suffering from Acute Respiratory Distress Syndrome (ARDS). COVID-19 related ARDS is characterized by severe hypoxemia necessitating mechanical ventilation. However, the impact of early PP has yet to be ascertained. Hence, we aimed to explore the mechanism, efficacy and current practices of PP in patients with COVID-19 related ARDS.

Methods

We searched PubMed, Springer Open, Wiley Online, JAMA Network, Google Scholar, and UpToDate using "ARDS", "COVID-19", and "Early Prone Positioning". Articles were screened as per the predetermined inclusion criteria. Following duplicate removal, the selected titles and abstracts were reviewed independently. We specifically included updated studies which implemented PP in COVID-19 patients irrespective of non-invasive or invasive management. The data was extracted according to a pre-devised priori chart using study characteristics, participant demographics, and outcomes. Studies with repetitive results were excluded.

Results

Our initial search yielded 3123 articles. A total of 9 studies were selected which utilized PP in the management of COVID-19 ARDS. Majority claimed PP to create a complementary effect when utilized with invasive or non-invasive ventilation. Nonetheless, not enough evidence was collected to conclude this relationship. The influence of PP on mortality also remained uncertain, which is a concerning issue especially during the current pandemic.

Conclusion

Our narrative review reports a beneficial effect of PP. However, all studies urged the importance of seeking further knowledge to confirm our conclusion. The advantages of PP usage were further clarified when demonstrating its effect on lungs.