

Portable BiPAP machines in Covid: A saviour in second pandemic wave

Dear Editor,

As COVID went on a rampage across the world during the second wave, many hospitals were caught unguard and struggled to deal with the number of patients who required oxygen.^[1] Hypoxic patients presenting to the hospital are

managed with supplemental oxygen depending upon the requirement and respiratory symptoms. A step ladder is usually followed, like; nasal canula, venturi mask, NRM face mask, HFNC/NIV, and finally intubation leading to invasive mechanical ventilation. Bi-level positive airway pressure (BiPAP) is a device which when applied through tight-fitting facial or nasal masks, can deliver positive airway pressure. The unique feature of these devices is that they provide positive pressure through both inspiratory and expiratory phases of the respiratory cycle. Thus, spontaneous breathing is possible with and against positive pressure.

A FiO₂ of up to 100% can be delivered with the help of a closed-circuit with these devices.^[2,3]

Portable BiPAP machine is a common entity in hospitals and even at homes where they are routinely used to manage patients with chronic respiratory diseases, such as COPD, Interstitial lung disease, and Obstructive sleep apnea, to name a few. However, its role in COVID ARDS is not well defined as there is a lack of first-hand experience and a dearth of data supporting or refuting its use in hypoxic patients.^[4,5] We would like to share our experiences in a high dependency unit with the portable Bipap machine, which turned to be a savior during these unprecedented times. As the second wave hit the country, hospitals were overwhelmed by the sheer number of COVID patients. Hypoxic patients were triaged, and those with increased oxygen requirements were shifted to a high dependency unit. Our institute had a local protocol derived from the first pandemic wave about managing respiratory support for adult patients with COVID-19. We had managed patients with HFNC, NIV, and invasive ventilation, but the experience with Bipap machines were lacking. During this time, a decision was made to try managing patients with mild to moderate disease with Bipap machines as there was a sudden rush in the number of patients presenting to the hospital. The idea was to gain time so that they could be shifted to intensive care unit if the need arises. We were happy and even surprised to see the response with these devices on hypoxic patients as we managed and eventually wean them gradually successfully. We were able to tide over the crises, and the role of these support devices cannot be undermined. Finally, we would like to emphasize the role these Bipap machines have played in managing hypoxic patients and the immense possibilities they have to offer in the future. Well-controlled RCTs would play a tremendous role in establishing their superiority and efficacy.

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Conflicts of interest

There are no conflicts of interest.

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