DEPARTMENT OF MEDICINE
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A Survey on Remdesivir Use and Antimicrobial Stewardship Restrictions Throughout the COVID-19 Pandemic

Alfredo J. Mena Lora MD[1], Fischer Herald PharmD[1], Rodrigo Burgos PharmD[1], Scott Borgetti MD[1] , Brenna Lindsey MPH[1], Lelia Chaisson PhD[1], Susan C Bleasdale MD[1]
(1)University of Illinois at Chicago, College of Medicine, Chicago, IL

Background

- Remdesivir (RDV) was the first agent with proven clinical benefit against COVID-19, shortening the time to recovery in a randomized placebo-controlled trial (RCT). Based on this trial, the Food and Drug Administration approved RDV via emergency use authorization.
- Despite its wide use, RDV remains controversial. Early use of RDV in patients requiring low flow nasal canula has robust evidence. However, benefit in mechanical ventilation (MV), high-flow nasal canula (HFNC) and non-invasive positive pressure ventilation (NIPPV) is conflicting. Multiple studies, most notably the SOLIDARITY and DisCoVeRy trial, have conflicting results on who benefits from RDV.
- Deploying novel therapeutics in this changing landscape is challenging. We seek to understand RDV practices and the role of antimicrobial stewardship (ASP) in hospitals across the US.

Methods

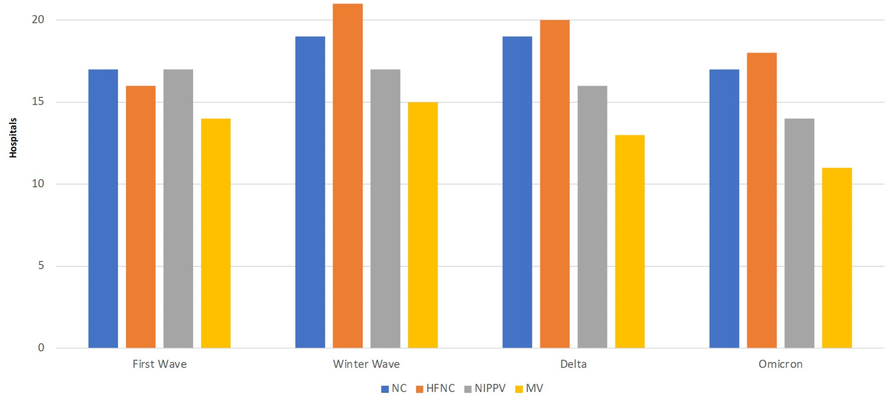
- A survey was developed and disseminated through Infectious Diseases Society of America (IDSA) IDea network, IDSA Antimicrobial Stewardship Centers for Excellence and the Society for Healthcare Epidemiology messaging boards.
- Data collected included city, presence of RDV therapeutic restrictions, and RDV use by degree of oxygen needs for each COVID-19 wave.

Results

- A total of 78 responses were collected, representing wide geographic reach in the US (Figure 1).
- RDV was restricted in 53% of facilities.
- Hospitals without restrictions commonly used RDV for patients on MV, NIPPV and HFNC, with more use on HFNC than on NC during the first winter, Delta and Omicron waves (Figure 2).
- Use on MV declined with each surge. Hospitals with RDV restrictions had more use of RDV on NC than all other ordinal scales (Figure 3).
- Use in MV, NIPPV and HFNC compared to NC declined in the restricted group with each COVID-19 surge.

Figure 1. Geographic distribution of hospitals represented in the survey

Figure 2. Remdesivir use by oxygen requirements in hospitals without remdesivir therapeutic restrictions.



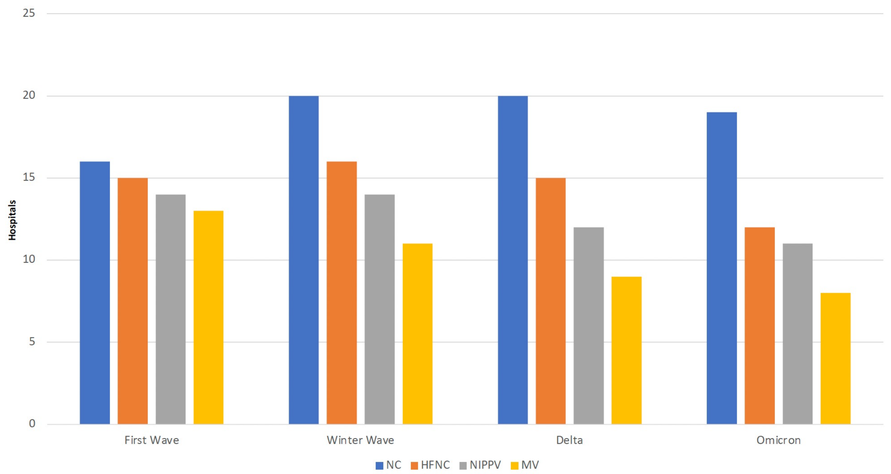


Figure 3. Remdesivir use by oxygen requirements in hospitals with remdesivir therapeutic restrictions.

Conclusions

- A wide gap between evidence-based guidelines and actual practice exists.
- This gap was wider in hospitals without COVID-19 therapeutic restrictions in place for RDV.
- In the unrestricted group, RDV was commonly used for MV, HFNC and NIPPV, where robust RCT evidence of benefit is lacking.
- Though this practice occurred in both groups, the restricted RDV group prioritized RDV use in NC and did so at higher percentages each subsequent COVID-19 surge.
- ASP restrictions can have an important role in guiding COVID-19 therapy.

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Alfredo J Mena Lora, MD FACP
amenalor@uic.edu / amenalora@sahchicago.org