Remdesivir use in a community hospital
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Background
- Remdesivir (RDV) is an FDA-approved antiviral therapy for patients infected with the SARS-CoV-2 virus, also known as COVID-19.
- RDV works by inhibiting RNA replication; therefore, it is most effective when the COVID-19 virus is actively replicating.
- In order to ensure RDV’s safe and effective use, the Pharmacy, Therapeutics, and Dietary subcommittee: COVID-19 Therapeutics developed criteria for RDV use.
- RDV costs between $3000–$6000 per treatment course.
- At the time this medication–use evaluation (MUE) was conducted, RDV was restricted to an infectious diseases or pulmonary provider.
- The purpose of this MUE was to assess the adherence to our institution’s criteria for use.

Criteria For Use
Inclusion Criteria
- Hospitalized patients with laboratory confirmed COVID-19
- Within 12 days of symptom onset
- Oxygen saturation ≤94% on room air, require supplemental oxygenation or mechanical ventilation

Exclusion Criteria
- Liver function tests (LFTs) greater than 5 times the upper limit of normal (ULN)
- Estimated glomerular filtration rate (eGFR) less than 30 mL/min

Methods
- The study period was between May 1, 2020 to October 1, 2020.
- Baseline demographics collected include age, sex, race, body mass index (BMI), and comorbid conditions.
- Adherence to the institutional criteria for use was evaluated for patients receiving RDV.
- LFTs were monitored at the beginning and end of RDV treatment.
- The use of other COVID-19 treatments were assessed, including use of azithromycin, dexamethasone, and convalescent plasma.

Results

### Primary Outcome

- Out of symptom onset window
- LFTs > 5x ULN

### LFT Trends at End of Treatment

- Increased
- Decreased
- Stayed WNL

### RDV Days of Therapy

- <5 days
- 5 days
- >5 days, <10 days
- 10 days
- >10 days

### Other Therapies Received (N=45)

- Convalescent plasma: 36 (80.0%)
- Dexamethasone: 35 (77.8%)
- Azithromycin: 35 (77.8%)
- Other antibiotics: 40 (88.9%)

Discussion
- Thirty-seven (82.2%) patients who received RDV met our institution’s criteria for use.
- RDV has not impacted liver function clinically.
- Since this MUE was conducted, we now have an order set for RDV that includes the updated criteria for use and daily hepatic function panel.
- Now with established criteria, providers understand that not every patient is a candidate for RDV therapy.
- Pharmacists review RDV criteria during order verification.

Conclusion
- Criteria for use has been updated since this MUE was completed: LFT cutoff has been increased to 10 times the upper limit of normal, there is no longer an eGFR cutoff, symptom onset is 7 days, and patients on mechanical ventilation are excluded.
- Duration of therapy is limited to 5 days
- More is known about COVID-19 and RDV now, so many of these patients would have met criteria for use due to time from symptom onset.

References:

Disclosures: Nothing to disclose.

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