

KCHP Remdesivir MUE Poster Abstract

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Purpose: The purpose of this medication-use evaluation on remdesivir (RDV) was to evaluate adherence to Olathe Medical Center's (OMC) criteria for use. Adherence is important because RDV only shows benefit in patients who are started on RDV earlier in their disease process. Using RDV appropriately avoids unnecessary exposure and adverse effects and decreases costs. At the time this MUE was conducted, the criteria for use included hospitalized patients with laboratory confirmed COVID-19, within 12 days of symptom onset and have an oxygen saturation of less than or equal to 94% on room air, require supplemental oxygen, or require mechanical ventilation. Patients were excluded if their liver function tests (LFTs) were greater than 5 times the upper limit of normal or who had an estimated glomerular filtration rate (eGFR) of less than 30 mL/min. At the time, RDV could only be ordered by an infectious disease or pulmonary physician. The cost of RDV is considerable, costing about \$3,000 to \$6,000 per treatment course.

Methods: A retrospective chart review was conducted for patients that received RDV 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 was assessed, including use of azithromycin, dexamethasone, and convalescent plasma. Discharge disposition was collected.

Results: Forty-five patients receive RDV during the review period. Baseline demographics include 25 (55.5%) were male, 35 (78%) were white, 25 (55.6%) had hypertension, 17 (37.8%) had type 2 diabetes mellitus, 10 (22.2%) had existing heart disease, and the average BMI was 35.09 (\pm 9.67) kg/m². There were 12 (26.7%) patients who required mechanical ventilation. Of the 45 patients who received RDV, 8 (17.8%) patients did not meet criteria for use. Seven (15.6%) patients were out of the 12-day symptom onset window and 1 (2.2%) had LFTs greater than 5 times the upper limit of normal. Median length of hospital stay was 8 days (IQR 5-13). There were 36 (80%) of patients who received at least one unit of convalescent plasma. Of the 45 patients who received RDV, 6 (13.3%) of patients died.

Conclusion: Thirty-seven (82.2%) patients who received RDV met our institution's criteria for use. All patients were hospitalized and required at least supplemental oxygen. Fortunately, RDV has not appeared to significantly worsen hepatic function at OMC. Only one patient stopped RDV early due to transaminitis. Although one patient continued treatment through AST greater than 5 times the upper limit of normal, LFTs improved by the end of therapy. The FDA states RDV should only be stopped in LFTs that rise to greater than 10 times the upper limit of normal or if LFT increase is associated with signs and symptoms of liver dysfunction. As more data has been collected, recommendations are continually updated to streamline the process of caring for our COVID-19 patients. Currently, remdesivir is not restricted to pulmonology or infectious disease, but patients must meet the criteria for use. Criteria for use has been updated since this medication use evaluation was completed.