

# REMDESIVIR'S EFFECT ON DURATION OF COVID SYMPTOMS

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## Introduction:

Remdesivir is an antiviral medication that was initially developed for the treatment of Ebola virus, but it has been used for treating COVID-19 since early in the pandemic. Several clinical trials have shown that remdesivir can help shorten the recovery time for patients with COVID-19, particularly those who are hospitalized with severe symptoms. By inhibiting the replication of the virus, remdesivir can reduce the severity of illness and speed up recovery time in some patients.

In this case we present here, the patient is an elderly gentleman with COPD and recently acquired COVID-19 whom was treated with remdesivir which improved his oxygenation.

## Case Report:

A 64 year old male patient with past medical history of COPD, hypertension, hyperlipidemia and diabetes mellitus type 2, presents to ED with worsening shortness of breath for the past 2 weeks. Patient states that he has an associated dry cough. The patient is afebrile, tachycardic, tachypneic, hypotensive and hypoxic and was placed on 4 liters nasal cannula. ABG demonstrates metabolic alkalosis. The patient states that he is unvaccinated for COVID-19.

The differential diagnosis that were made include: acute hypoxic respiratory failure secondary to COPD exacerbation, COVID-19, obstructive sleep apnea, chronic hypoventilation syndrome and pneumonia.

## Mechanism of Action:

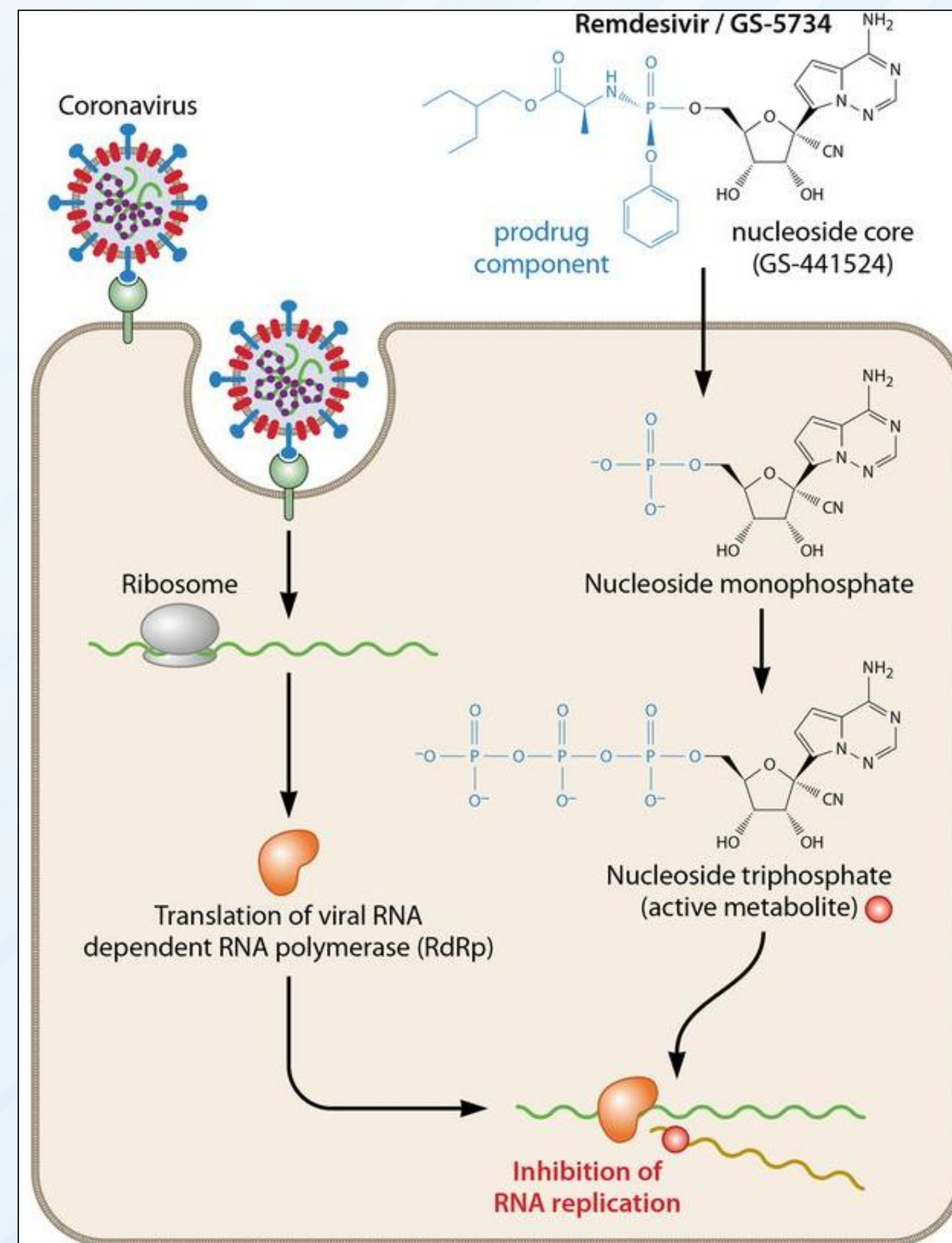


Figure 1: Remdesivir inhibits the replication of the SARS-CoV-2 virus by blocking the RNA replication process and thus preventing the assembly and packaging of the mature virion. Courtesy of Jiang ZD 2020.

## Results:

CXR at the time of admission shows no acute pneumonic infiltrate or pleural effusion.

Hematologic lab values demonstrated elevated inflammatory markers (CRP and LDH)

COVID testing was SARS antigen (-) and PCR (+)

The patient was determined to be suffering from old COVID-19 course and he was started on remdesivir and dexamethasone treatment.

## Discussion:

Remdesivir is a medication that has been used to treat COVID-19 patients in hospital settings. The drug is designed to interfere with the replication of the virus, potentially shortening the duration and severity of symptoms. Several clinical trials have evaluated the efficacy of remdesivir in COVID-19 patients, and while some have shown promising results, others have been inconclusive.

A case report published in the New England Journal of Medicine in July 2020 described the use of remdesivir in a patient with severe COVID-19, who experienced a rapid improvement in symptoms, with resolution of fever and respiratory symptoms within a few days. Another study published in the Journal of Antimicrobial Chemotherapy in October 2020 found that patients who received the medication had a shorter time to clinical improvement compared to those who received standard care.

However, it is important to note that more research is needed to fully understand the effectiveness of remdesivir in treating COVID-19 and its impact on the duration of symptoms. While there is some evidence to suggest that remdesivir may help shorten the duration of COVID-19 symptoms in certain patients, it is not a cure for the disease and should only be used under the guidance of a healthcare professional.

Overall, the use of remdesivir as a treatment for COVID-19 remains an area of ongoing research and investigation.

## Conclusion:

In conclusion, remdesivir may help symptomatic patients suffering from COVID-19, regardless of how late in the course it is used, as it can decrease inflammatory markers and improve oxygenation.

Therefore, if a patient presents with COVID-19, remdesivir should be considered as part of the management.

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