The COVID-19 test-based discharge strategy leads to unnecessary increased length of hospitalization, higher healthcare costs, and procedure delays.

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“COVID-19 persistent PCR positive tests cause treatment delays and increased length of stay”


Abstract

- The CDC has recommended discontinuing transmission-based precautions for Coronavirus disease-2019 (COVID-19) hospitalized patients according to either a symptom-based or test-based approach.¹

<table>
<thead>
<tr>
<th>Symptom-based</th>
<th>Test-based</th>
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<tbody>
<tr>
<td>10 days since symptom onset</td>
<td>10 days since symptom onset</td>
</tr>
<tr>
<td>≥ 72 hours afebrile</td>
<td>≥ 72-hours afebrile</td>
</tr>
<tr>
<td>Improved respiratory symptoms</td>
<td>2 negative RNA tests ≥ 24 hours apart</td>
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- We designed a retrospective cohort study to evaluate the consequences of the test-based strategy for discontinuation of transmission precautions.
- This study measures the total length of stay of hospitalized patients with COVID-19 and shows when they were clear for discharge by the symptom-based approach but were withheld from discharge due to repeatedly testing positive.

Introduction

- SARS-CoV-2 is the virus that causes COVID-19. It was first identified in Wuhan, China in December 2019. It has resulted in a pandemic with millions of infections and hundreds of thousands of deaths.²,³
- The majority of diagnostic testing for COVID-19 relies on detecting viral ribonucleic acid (RNA) using reverse transcription real-time polymerase chain reaction (PCR).
- While useful for diagnosing COVID-19, evolving research shows that detection of viral RNA is not adequate to conclude that a recovering patient is still infectious.⁴,⁵,⁶
- Therefore, a recovering patient may no longer be infectious and be prepared for discharge based on symptom-based criteria but kept in isolation due to persistent positive RNA tests.
- This can influence the availability of certain therapies, the timing of procedures, and length of hospitalization in addition to placing an emotional and financial burden on the patient.

Methods

- We conducted a retrospective cohort study of 196 COVID-19 hospitalized subjects within the Vidant Health system in Eastern North Carolina.
  - Of the 196 COVID-19 subjects, 34 were identified as having one or more PCR tests ≥ 3 days after the first positive test on admission were identified

Results

- Improvement of respiratory symptoms was defined as a clear improvement in presenting symptoms, minimal or no supplemental oxygen requirement, and overall clinical readiness for discharge.
- Total extra days of hospitalization (delayed discharges) were calculated using the date identified as appropriate for discharge based on the symptom-based approach and the actual date of discharge.

Extended lengths of hospitalization for patients due to test based strategy

Methods continued

- Of 34 repeat testers, 20 patients (59%) experienced delays.
  - No Delay
  - Experienced Delays

This resulted in 174 DAYS of unnecessary hospitalization…

…with an estimated total cost of $435,000 to the health care system for only 17 of the patients.⁷,⁸