

COVID-19 retesting – what is the relevance?

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Introduction

- All over the United States many patients are getting retested for COVID-19 after recovery from initial infection.
- Nasal swab for PCR is the most commonly utilized testing modality.
- Reason for repeat testing is often to rule out active infection to protect inhabitants of rehabilitation or nursing home facilities from patients who still actively shed the virus.
- However much is still unknown about
 - reliability of the utilized tests and testing methods,
 - duration of viral shedding after primary infection, and
 - likelihood of reinfection after clearing the infection of the first occasion.
- Our case describes an elderly nursing home resident who, after recovery from an initial symptomatic COVID-19 infection, underwent repeat testing on multiple occasions during hospitalizations resulting in the confusing sequence of negative results followed by again positive results.
- How should we interpret these findings? False result or reinfection? And how to explain the test result to concerned family members?

Case Presentation

- 69-year-old male with PMHx of smoking, home-oxygen dependent COPD, hyperlipidemia, and diabetes mellitus type 2.
- Figure 1 shows the timeline of his COVID-19 test results.
- Only the initial test was ordered to help in clinical decision making. All further testing was done to facilitate discharge from SNF to home or to help determine isolation precautions during hospitalization.
- Even though the patient did not show any clinical signs of active COVID-19 infection to suggest active viral shedding from initial or reinfection and reinfection with COVID-19 this soon after initial infection was deemed unlikely, the patient was placed under strict isolation precautions during the hospitalization and discharge was delayed.



Figure 1: COVID-19 testing timeline

Discussion

- Since the onset of the COVID19 pandemic physicians around the world have been faced with the challenge of treating patients for a disease with many uncertainties.
- Since then, the medical research machine has been working at a tremendous speed to try to close the knowledge gaps. As we get more answers every day and are narrowing down on preferred treatment strategies and obtaining a vaccine, much remains unknown about the possibility of reinfection¹, the duration of viral shedding with relationship to infectivity², as well as reliability of test results^{3, 4}. Yet these relate to many questions from our patients as well as family we need to answer on a daily basis.
- Never before have we tested patients on such a large scale after recovery from clinical symptoms of infection to guide decision making regarding isolation precautions or discharge planning. For other viruses, like Influenza or rhinovirus, we would not retest but rather rely on clinical judgement to make these decisions.
- Although, in this time of a pandemic we need to harbor extra caution in our decision making since so many people are at risk, it is also our responsibility as clinicians to prevent overuse of medical resources in the form of PPE as well as unnecessary extension of hospital or nursing home stay.
- We therefore put forward to limit repeat COVID-19 testing as much as possible at least until more is known about how to interpret these test results. Otherwise we might end up causing more harm to our communities than benefit.

Conclusion

- Our case illustrates the difficulty clinicians face in interpreting COVID19 repeat test results.
- We urgently need guidelines regarding COVID-19 retesting, otherwise we will have to grapple with the dilemma of what to do with the test results.
- To isolate or not to isolate? - that will be our question to answer.

References

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