

An asymptomatic Covid-19 carrier with prolonged viral shedding for 61 days

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Abstract

The coronavirus 19 disease emerged in Wuhan in China's Hubei province in late December and has spread across the globe. The spectrum of the disease varies from asymptomatic cases to severe disease. The severity of the disease has been linked to the duration of viral shedding as detected by RT PCR. But here we report an asymptomatic case with prolonged duration of viral shedding for 61 days, which to our knowledge is the longest duration noted.

Keywords: prolonged viral shedding, coronavirus, asymptomatic

Introduction

The coronavirus disease 19 (COVID-19) is a viral infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which emerged in Wuhan, China in December 2019 and spread around the world. To date, it has affected about 61299371 people across the globe with more than 1439784 deaths ^[1].

Covid -19 has been classified into five major types: asymptomatic, mild, moderate, severe and critical ^[2]. Asymptomatic infection refers to the detection of nucleic acid of SARS-CoV-2 in patient samples by reverse transcriptase-polymerase chain reaction (RT-PCR), in the absence of clinical symptoms or signs and apparent abnormalities in imaging ^[3].

Some retrospective analyses show that the median duration of viral shedding was 12-20 days from onset of illness ^[5, 7]. Severe cases are found to have prolonged viral shedding as compared to mild ^[8]. It has been found that 90% of the mild cases clear within 10 days after symptom onset ^[9]. The longest duration reported has been 60 days in a patient who had severe Covid-19 disease ^[10]. However, here we report an asymptomatic carrier with prolonged viral shedding for 62 days as detected by RT-PCR.

Case Presentation

On 25 April, a 26 year old young male, hypothyroid, tested positive for Covid-19 by RT-PCR. His sample was taken as a part of contact tracing protocol as his grandmother had tested positive for SARS CoV-2. The patient was asymptomatic. He had a history of being operated for DNS with chronic rhino sinusitis with right concha bullosa. Endoscopic septoplasty with limited FESS with right conchoplasty was done on 19 February. There was no other significant history. On physical examination, he had a temperature of 35.4 degrees, pulse of 82 beats/min, blood pressure of 124/70 mmHg, respiratory rate of 18 breaths/min and a saturation of 95% on room air. Lung auscultation revealed normal vesicular breath sounds. Rest of the examination was also normal. Routine lab

investigations revealed a hemoglobin of 15.00 g/dl, total leukocyte count of 4300/mm³, absolute lymphocyte count of 1490 and a platelet count of 147 thou/mm³. Kidney function tests were normal with a creatinine of 0.9. There were no coagulation abnormalities with a prothrombin time of 13.50 seconds and INR of 1.04. A Chest x-ray was also done, which was apparently normal. As the patient was asymptomatic with normal laboratory parameters and radiology, he was sent to an isolation center. No specific treatment was given. On day 7, a nasopharyngeal swab was sent for RT-PCR which turned out to be positive. The sample was repeated on day 14 and then on day 21, both again turned out to be positive. The patient still had no symptoms and physical examination was normal. Laboratory investigations were again sent which showed a total leukocyte count of 3900/mm³, lymphocyte count of 1100, platelets of 258 thou/mm³ and a hemoglobin of 13.8. Liver function tests showed an ALP of 93, AST of 42, ALT of 51 and total protein of 7.5. He had an LDH of 160, creatinine kinase 2 levels of 80, ferritin levels of 37 and CRP levels of 25.07. His procalcitonin levels were also normal (<0.08). A chest CT was done which was unremarkable. A CT scan of the paranasal sinuses was done which did not show any recurrence of the disease. The patient was sent back to the isolation facility and asked to report back in case he develops any symptoms. His nasopharyngeal swab was taken on weekly basis. On day 42, he tested positive for Ig G antibodies against the SARS Co V2, with RT PCR still being positive. Finally, on 24-06-20, that is day 62, he tested negative for the virus by RT-PCR. The patient remained completely asymptomatic all through the course of his illness.

Discussion

Previous studies indicated the level and duration of viral Shedding is a critical indicator to assess the risk of transmission and to guide the isolation of patients as well as predicting the prognosis ^[7, 11]. In viral infection, prolonged viral shedding was associated with inferior outcome ^[11]. A

study found that the median period of viral shedding was 9.5 days in asymptomatic cases, the longest was up to 21 days [12].

Contrary to this, here we report an asymptomatic carrier of Covid-19 with prolonged viral shedding detected by RT PCR. Studies have shown that asymptomatic infections have

the same infectivity as symptomatic infections [4]. And with a prolonged duration of viral shedding, the risk of transmission is more. Therefore, early detection of asymptomatic carries is important to break the chain of transmission. In this context, we also emphasize the need for good contact tracing.

Table 1: Lab Parameters during the Course of Illness

Parameter	Normal Range	Day 1	Day 21	Day 62
Hemoglobin	13.3-16.2g/dl	15.00	13.8	14.0
Total leucocyte count	3.54-9.06 x 10 ³ /mm ³	4.3	3.9	4.5
Absolute lymphocyte count	600-4100	1490	1100	1340
Platelet count	165-415 x 10 ³ /mm ³	147	258	262
Creatinine	0.6-1.2 mg/dl	0.9	0.8	0.9
PT/INR	12.7-15.4s/ 0.8-1.1	13.5/1.04	13.0/1.02	-
CRP	<10mg/L	20.02	25.07	15.2
LDH	115-221U/L	157	160	124
Procalcitonin	<0.1 ng/ml	-	<0.08	<0.01
Ferritin	29-248ng/ml	-	37	42

Figures

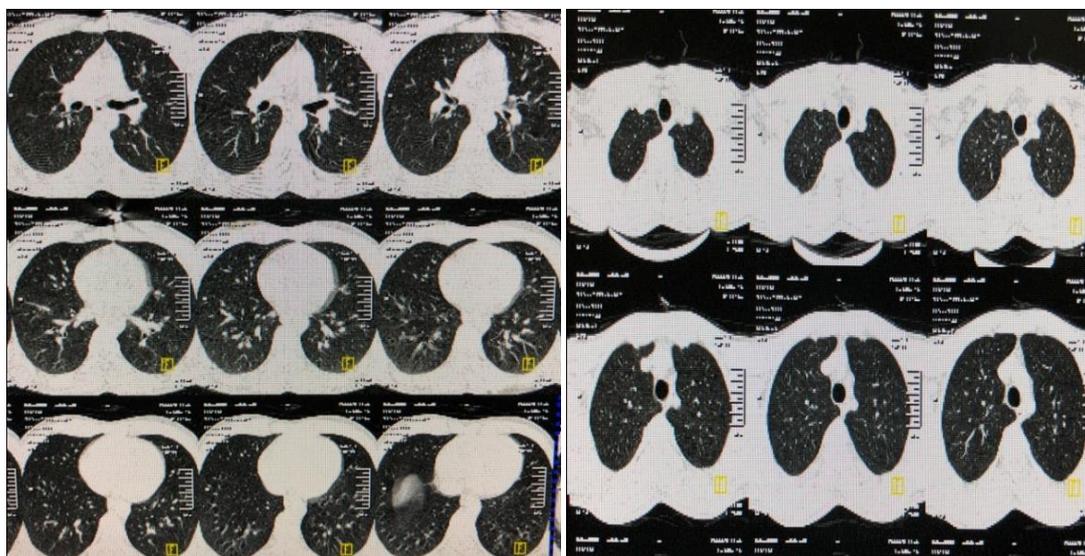


Fig 1: (a, b) High resolution CT Chest of the patient showing no obvious abnormality

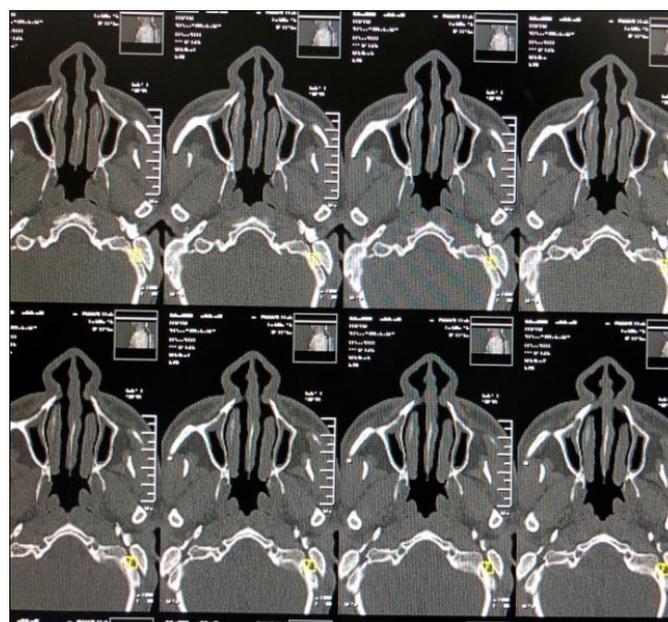


Fig 2: CT Paranasal sinus showing no recurrence of the disease

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