

A CAUTIONARY TALE OF AN ATYPICAL PRESENTATION OF COVID-19 IN THE GERIATRIC POPULATION

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ABSTRACT

Geriatric patients may present with atypical symptoms for COVID-19. This case aims to highlight how an elderly patient with two to three weeks of low-grade fever of unknown origin was managed. The family medicine resident was able to assess the patient holistically and admit her to the right discipline with the proper contact precaution.

Keywords: 2019-nCov; SARS-CoV-2; COVID-19; Atypical presentation; Low-grade fever; Fever; Elderly; Geriatrics

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INTRODUCTION

Geriatric patients may present with atypical symptoms for COVID-19.¹ This case aims to highlight how an elderly patient with a low-grade fever of unknown origin of two to three weeks duration was managed. The family medicine resident was able to assess the patient holistically and admit her to the right discipline with the proper contact precaution.

CASE PRESENTATION

Mdm NAK, an 89-year-old Chinese lady, visited Tan Tock Seng Hospital (TTSH) Accident and Emergency (A&E) on 8th April 2020. She had been referred by her GP for having a persistent low-grade fever of unknown origin for two to three weeks.

She previously presented to the GP towards end-March for low-grade fever of 37.8°C and was discharged home with symptomatic medications. As the low-grade fever persisted, she revisited the GP again on 3rd April and was prescribed with Clarithromycin. However, her low-grade fever of 37.7-37.8°C continued to persist, and it was during her third visit to the GP that she was referred to TTSH A&E.

Mdm NAK was seen in the fever facility of TTSH A&E. She denied any typical symptoms of COVID-19, such as shortness of breath, cough, runny nose, anosmia or sore throat. She

denied gastrointestinal symptoms such as nausea, vomiting, abdominal discomfort or diarrhoea. She did not have dysuria, flank pain, haematuria, urinary frequency or urgency. She did not have joint pain, night sweats, loss of weight or loss of appetite. She was deeply concerned and worried about the persistence of her low-grade fever.

She stayed with her foreign domestic worker, and her son would visit her once a week. She denied visiting any COVID-19 hotspots but would go to the nearby shops with her helper to do grocery shopping. Mdm NAK denied contact with any positive or suspected COVID-19 cases. There were also no recent travel history or sick contacts. Both her foreign domestic worker and son remained well and did not have any upper respiratory tract infection nor gastrointestinal symptoms. She has a significant past medical history of stable multi-nodular goitre status post right hemithyroidectomy and hypertension. Her chronic medications consisted of Nifedipine LA tablet 60mg OM, Vit B complex tablet 1 tab OM and Calcium/Vitamin D tablet 2 tabs OM.

On examination

Mdm NAK vitals at triage was: Temperature 37.4°C, Heart rate 80, Blood pressure 147/64, Respiratory rate 17 and SpO₂ 100% on room air.

She was well, alert and comfortable. She was not in any respiratory distress and looked non-toxic. Heart sounds were present, and there was no murmur. Her lungs had equal air entry bilaterally, with no signs of wheeze or crepitations. Her abdomen was soft, non-tender on palpation. She had no signs of rebound tenderness or guarding, and renal punch was negative. Her calves were supple, and there was no pedal oedema. Her back had no pressure or sacral sores. There were no rashes over her body, and her joints had no swelling or erythema.

Table 1. Initial investigations in TTSH A&E

Test	Results/units	Normal range
Dengue NS1	Negative	Negative
Dengue IgM	Positive	Negative
Dengue IgG	Negative	Negative
Haemoglobin	10.8 g/dL	11.8 - 14.6
White blood cell	4.9 x10 ⁹ /L	4.0 - 9.6
Platelet	191 x 10 ⁹ /L	150 - 360
Differential counts	Normal	-
Sodium	131 mmol/L	135 - 145
Potassium	2.5 mmol/L	3.5 - 4.5
Creatinine	64 µmol/L	40 - 75
C-Reactive Protein	1.1 mg/L	0 - 5
Thyroxine	13 pmol/L	8 - 16
TSH	0.76 mIU/L	0.45 - 4.5
Liver function test	Normal	-
Urine dipstick		
Leucocytes	3+	Negative
Nitrite	Positive	Negative
CXR: No consolidation or pleural effusion is detected.		

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Problems identified

1. Patient's concerns and expectation
2. Low-grade fever for investigations
 - Asymptomatic pyuria
 - Positive Dengue IgM
3. Hypokalaemia

Management of the case

Patient's concerns and expectations

Mdm NAK was worried due to the long duration of low-grade fever. After the initial investigations, we reassured her that the results did not show that she has any life-threatening infection or condition at the moment. However, in view of the persistent low-grade fever, we would like to admit her for further monitoring. Additionally, we explained to her that in view of the COVID-19 pandemic, we would like to place her in an isolation room and screen her for COVID-19. This brought a great amount of comfort to Mdm NAK.

Low-grade fever

The results of Mdm NAK's preliminary investigations in the A&E were inconclusive. Although the urine dipstick showed positive results, she had no signs or symptoms compatible with cystitis or pyelonephritis. She had positive Dengue IgM, but as there was no thrombocytopenia, this raised the possibility of a false-positive result. She was also not living in a dengue hotspot area. Due to the inconclusive investigations, it was decided to admit Mdm NAK to an enhanced pneumonia surveillance ward (furnished with isolation rooms) to screen for COVID-19.

Subsequently, her first COVID-19 swab came back positive. The patient was then transferred to NCID as she was confirmed to have COVID-19. Urine culture also showed no growth.

Mdm NAK had a negative swab a few days after being admitted and remained afebrile throughout the admission. It was likely that Mdm NAK was at the tail end of her COVID-19 infection. She had an uneventful recovery process and was subsequently discharged after having two negative swabs.

Hypokalaemia

Mdm NAK was started on potassium replacement and her potassium level soon normalised. She was then arranged for an outpatient follow-up on her potassium levels.

Literature review on the latest evidence

Patients with COVID-19 present with common symptoms of fever, cough, shortness of breath, muscle ache and sputum production.²⁻³ There have also been documentations of the lesser-known presentations of COVID-19, such as the lack of fever (temp < 38°C), thrombocytopenia, diarrhoea, confusion and syncope.⁴⁻⁶

Geriatric patients have atypical presentations for illnesses.⁷ This

could be due to an inability to mount a good immune response with appropriate inflammatory cytokines as well as the blunted thermoregulatory process of the body due to ageing.⁸⁻⁹ With COVID-19, it has been shown that fever is less observed in geriatric patients as compared to younger patients, while other symptoms of cough and gastrointestinal signs present with similar frequency in both patient groups.¹⁰ Although this patient has a fever with a positive Dengue IgM, it is important to consider COVID-19 as a differential due to the possibility of false-positive reading.¹¹

Geriatric patients are particularly affected by the coronavirus, both in terms of prevalence and severity of the infection.¹² They were reported to require higher rates of mechanical ventilation¹⁰, longer duration of stay in the ICU¹³, and have greater mortality rates as compared to younger patients.¹⁴ Age, in particular, is a risk factor for poor prognosis of COVID-19 due to a worse sequential organ failure assessment (SOFA) score from respiratory failure, heart failure and septic shock.¹⁵ Moreover, recent studies have revealed that geriatrics patients who are likely to have more co-morbidities do acquire severe COVID-19 infection, which may increase the risk of thrombotic events such as acute cerebrovascular diseases¹⁶, as well as myocardial injury and infarction.¹⁷

These studies reinforce that in geriatric patients, it is important to have a high index of suspicion for atypical presentations of COVID-19. This will allow prompt diagnosis of COVID-19 to reduce the sequelae of morbidity and mortality in geriatric patients and the spread to other individuals.¹ If Mdm NAK had been admitted to the general ward instead of isolated and had subsequently tested to be positive for COVID-19, there would be a high potential of spread to other patients and healthcare workers and subsequently, result in a laborious and resource-intensive contact tracing process.¹⁸⁻¹⁹

CONCLUSION

In summary, this case aims to highlight that low-grade fever may be the only sign for COVID-19. Hence, it is of paramount importance to consider COVID-19 as a differential in geriatric patients that presents with atypical symptoms. This will allow them to undergo the appropriate screening procedure and contact precaution.

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LEARNING POINTS

- In the elderly, COVID-19 may not present with the typical symptoms of cough, shortness of breath or sputum production. The only symptom could be a low-grade fever.
- False-positive Dengue IgM results may occur with COVID-19 infection.
- In the current climate, it may be safer to err on the side of caution and public health safety to isolate and screen for COVID-19 in elderly patients presenting with atypical symptoms and inconclusive investigation results.