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Delving into the Management of COVID-19 in Malaysia: A Case Series during the Second Wave of the Pandemic

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***Abstract*— Introduction:** *Malaysia announced its first COVID-19 infection on 25 January 2020, involving three China tourists from Singapore who entered Malaysia via Johor. This was a retrospective case series describing the management of patients with confirmed COVID-19 infections during the early waves in one of the states in Malaysia.* **Methods:** *A total of 12 adult confirmed cases of COVID-19 requiring hospital admission were identified from March to May 2020. At least 1 case was reported for each clinical stage. Cases were retrospectively reviewed through electronic medical records from the first COVID-19 contact until hospital discharge. Relevant study endpoints such as clinical presentations, patients' outcomes, treatment given during hospitalization, and related laboratory data were noted.* **Results:** *All 12 patients were of Malay ethnicity, with cases equally distributed across both genders. The mean (SD) age of the study population was 52.0 (15.3) years old, with 2 of them being geriatric patients. Symptomatic cases with clinical stage 2 and above received pharmacological treatment, such as hydroxychloroquine, lopinavir/ritonavir, interferon, and tocilizumab. Adverse drug reactions due to lopinavir/ritonavir were reported in 2 patients. Among laboratory tests conducted were absolute lymphocyte count, C-reactive protein, ferritin, lactate dehydrogenase, D-dimer, and procalcitonin. All but one patient managed to recover from the infection.* **Conclusions:** *Early on in the pandemic, hydroxychloroquine and lopinavir/ritonavir were among the suggested medications for COVID-19. As new evidence emerges, the search for specific treatment continues with only corticosteroids have been proven effective in the severe and critical stage of the infection.*

***Keywords*—** *Coronavirus, COVID-19, SARS-CoV-2, antiviral, Malaysia.*

I. INTRODUCTION

COVID-19, the potentially fatal respiratory illness firstly detected in December 2019, has spread across the globe with unseen speed and ferocity [1]. Malaysia was also dragged into the battle against COVID-19 infection as the first case was recorded on 25 January 2020, involving 3 China tourists, who had entered Malaysia from Singapore via Johor [2], [3]. The first wave ended with a small number of 22 patients were infected [4]. The second wave of infections broke out in late February [4] with the biggest cluster was the Seri Petaling cluster [5]. This cluster recorded a total of 3,375 infections and 30 deaths which spawned 17 sub-clusters. The second wave was finally declared over by July [6] but the country was hit yet again with the third wave in October [7]. The outbreak which is still on-going was triggered from clusters in Sabah and Kedah with Selangor was also heavily affected. Since then, COVID-19 cases had multiplied drastically and over 80,000 cases were reported all over the country by December 2020 [8].

In amidst of COVID-19 pandemic, World Health Organization (WHO) had published interim clinical care guidelines for hospitalized patients and mildly ill patients at home [9]. Using this and recent researches as the foundation, Malaysia had implemented a guideline on the management of COVID-19 in May 2020. According to the guideline, a confirmed case of COVID-19 is defined as a person with laboratory confirmation of the infection [10]. The diagnosis is complicated as patients are presented with a wide range of symptoms. While most symptoms are mild, about 20% of the manifestations appear to progress to pneumonia or respiratory failure with fatal consequences [11].

The management of confirmed cases in Malaysia is based on clinical stages, ranging from stage 1 (asymptomatic) to stage 5 (critically ill with multi-organ failures). Stage 2 and 3 can be further classified based on the presence or absence of warning signs, which are fever, dropping of absolute lymphocyte count (ALC), increasing C-reactive protein (CRP) trend and tachycardia. The management begins with supportive care, close monitoring and symptomatic treatments, providing optimal nutritional support as well as maintaining fluid and electrolytes balance [10].

There are, however, experimental agents which could potentially be repurposed to treat COVID-19 such as chloroquine, hydroxychloroquine, lopinavir/ritonavir, interferon and ribavirin [12]. Hence, this retrospective case series aimed to describe the management of patients with confirmed COVID-19 infections during the second wave of the pandemic in one of the states in Malaysia.

II. METHODS

A total of 12 adult confirmed cases of COVID-19 requiring hospital admission were identified from March to May 2020. At least 1 case was reported for each of the 5 clinical stages. Cases were retrospectively reviewed through electronic medical records from the dispensation of first COVID-19 contact until hospital discharge. Relevant study endpoints such as clinical presentations, patients' outcomes, treatment given during hospitalization and related laboratory data were noted. The time to viral clearance is considered as

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time from the first positive Reverse Transcription-Polymerase Chain Reaction (RT-PCR) assay until the first negative result, in view that patients might present to the hospital late or days after symptom onset.

This case series was approved by the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (NMRR-20-734-54562), while permission to conduct it was attained from the Director of Raja Perempuan Zainab II Hospital. All subjects were remained anonymous to ensure their confidentiality. The descriptive statistics were performed using Statistical Package for the Social Sciences (SPSS) version 25.0.

III. RESULTS

All 12 patients (patient 1 to 12) were of Malay ethnicity, with cases were equally distributed across both genders. The mean (SD) age of the study population was 52.0 (15.3) years old, with 2 of them being geriatric patients (patient 8 and 11). This case series was reported based on the clinical stages; following the chronology, starting from their history of possible first COVID-19 contact until hospital discharge. Also included were the clinical presentations and patients' outcome (Table I), treatment given during hospitalization as well as relevant laboratory data (Fig. 1).

TABLE I. Clinical presentations of confirmed cases of COVID-19 (n=12)

Clinical Presentations	Mean (SD)	Median (IQR)	n (%)
Age (years old)	52.0 (15.3)	55.5 (28.5)	
Gender			
Male			6 (50.0)
Female			6 (50.0)
Days of contact to onset of symptoms	7.2 (5.8)	5.5 (10.0)	
Days of contact to positive viral test	10.4 (5.5)	9.0 (9.0)	
Days of contact to hospitalization	11.9 (5.0)	10.0 (11.0)	
Days of contact to virus negativity	20.7 (6.0)	18.0 (12.0)	
Days of contact to hospital discharge	24.0 (7.5)	22.0 (12.0)	
Days of hospitalization	13.0 (4.4)	13.0 (5.0)	
Days of viral clearance	11.1 (3.1)	11.0 (2.0)	
Comorbidity			
Yes			9 (75.0)
No			3 (25.0)
Outcome			
Alive			11 (91.7)
Dead			1 (8.3)
Symptoms			
Fever			8 (66.7)
Sore throat			4 (33.3%)
Cough			8 (66.7)
Myalgia			4 (33.3%)
Diarrhea			4 (33.3%)
Arthralgia			2 (16.7%)
Headache			2 (16.7%)
Runny nose			1 (8.3%)
Lethargy			1 (8.3%)

A. Clinical stage 1 (asymptomatic)

Patient 1 was a pregnant lady with gravida 2 para 1 at 37 weeks and 4 days of gestation. She had an underlying hematological history of thalassemia trait and a scar from her first delivery due to fetal distress. She was currently on folate and iron supplements during antenatal care. Patient 1 traveled interstate from a red zone area to Kelantan and planned for delivery at a local district clinic. Her most probable COVID-19 contact was at the red zone area before her first positive RT-PCR assay at a local district clinic. The next day, she was referred to our facility for COVID-19 care. Otherwise, patient 1 was asymptomatic and no medication indicated for COVID-19 was served. In the ward, her laboratory results, which included ALC and CRP were normal, with no bleeding tendencies. Rapid test kit for antibody was done and nasopharyngeal swab for RT-PCR was repeated; both came back as negative. Her time to viral clearance was calculated as 15 days and she was then transferred to the local district clinic for further follow-up and delivery plans (Fig. 2(a)).

B. Clinical stage 2 (symptomatic, no pneumonia)

Patient 2 experienced loose stool at the time of admission, whereas patient 3 exhibited symptom of sore throat a day after contact. Patient 2 had positive RT-PCR assay at day 6 post-exposure, while the first assay taken on the day of symptom onset for patient 3 was undetected, but was repeated to be positive 4 days later. Both of them had no known medical illness and they were afebrile with peripheral capillary oxygen saturation (SPO2) of 99% under room air during hospitalization. Hydroxychloroquine was prescribed and completed for 5 days with the electrocardiogram (ECG) exhibited normal sinus rhythm with no prolongation of QT interval. No remarkable findings were seen in the laboratory data for ALC, CRP and lactate dehydrogenase (LDH), while D-dimer and procalcitonin were not tested. In the ward, their chest x-ray results showed interstitial opacity but were not on any ventilation. Patient 2 and 3 were discharged after 11 and 9 days of hospitalization with the durations to viral clearance for them were 11 and 10 days, respectively (Fig. 2(b)-(c)).

C. Clinical stage 3 (symptomatic, pneumonia)

Both patients 4 and 5 had an underlying health condition of type 2 diabetes mellitus (T2DM) on oral hypoglycemic agents (OHA). Patient 4, who was also diagnosed with hypertension (HPT) with chest x-ray of pneumonic features as well as symptoms of fever, sore throat, runny nose, cough, arthralgia and myalgia during admission. The symptoms appeared on the same day as the positive RT-PCR assay. Patient 5 was confirmed with COVID-19 15 days post-exposure and self-quarantine thereafter. She was only admitted into the ward when she was febrile on day 19. Patient 5 had ECG changes of ST depression on lead V3-V6, I, II, III, aVF and aVL, possibly due to her hypokalemic state during hospitalization and ended up requiring ventilation in the intensive care unit (ICU). Patient 4 was prescribed with hydroxychloroquine for 7 days and lopinavir/ritonavir for 10 days. Throughout admission, he was comfortable under room air without shortness of breath and not requiring ventilation. However, he experienced a low-grade temperature with cytokine release syndrome features once; CRP, ferritin, LDH and D-dimer were noted to be elevated while ALC was decreasing in trend with normal procalcitonin. As for patient 5, she completed hydroxychloroquine for 5 days, but

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lopinavir/ritonavir was withheld due to her elevated total bilirubin level. Her laboratory investigations, ALC, CRP, Ferritin, LDH, D-dimer and procalcitonin were all unremarkable, but the infection progressed to clinical stage 4, which she required ventilation and dexamethasone for 2 days during her ICU admission. The length of hospital stay for patient 4 was 16 days, while patient 5 was discharged after 13 days of hospitalization. The durations to viral clearance from the first positive RT-PCR assay for patient 4 and 5 were 15 and 16 days, respectively (Fig. 2(d)-(e)).

Patient 6, who had underlying T2DM and HPT, was presented to our facility with cough, sore throat, loose stool and headache. Only after 6 days of symptoms onset, he came for COVID-19 screening and was admitted after it came out as positive. When patient 6 was prescribed with hydroxychloroquine and lopinavir/ritonavir, he experienced adverse effects of vomiting and loose stool and was subsequently transferred to ICU for close observation on the very next day. His D-dimer was normal despite elevated CRP and ferritin with depressed ALC. He was then discharged well after 17 days of admission. His duration of viral clearance from the first positive RT-PCR was 12 days (Fig. 2(f)).

D. Clinical stage 4 (symptomatic, pneumonia, requiring supplemental oxygen)

All 5 patients (patient 7 to 11) needed critical care and mechanical ventilation, with 2 of them (patient 10 and 11) requiring hemodynamic supports.

Patient 7 was on OHA for his T2DM, while patient 8 had insulin, antihypertensive and antihyperlipidemic medications. Patient 9 was diagnosed with various concomitant diseases, of which were T2DM, HPT, gout and chronic kidney disease (CKD) stage 3. Patient 7, 8 and 9 were confirmed positive with COVID-19 at 6, 10 and 7 days after exposure, respectively. Prior to hospitalization, both patient 7 and 8 had fever, cough, myalgia and loose stool. Additionally, patient 8 also presented with sore throat, headache and arthralgia. Medication wise, patient 7 and 9 completed a 10-day course of hydroxychloroquine and lopinavir/ritonavir, but patient 8 only took 5 days of hydroxychloroquine and forfeited lopinavir/ritonavir. Patient 7 and 9 had to be ventilated in the ICU on day 6 and 7 of admission, respectively. Patient 8 was admitted directly to the ICU when she was presented to the emergency room with hypoxia. All 3 of them were given interferon Beta-1b. Dexamethasone was only given to patient 7 and 8, who had elevated ferritin. In terms of laboratory investigations, CRP and LDH were high with low procalcitonin and occasionally low ALC. However, D-dimer was not taken for all 3 patients. Patient 8 was discharged as early as 5 days after hospitalization, while the rest had the length of stay of 13 to 16 days. The duration of viral clearance were 9 to 12 days from the first positive RT-PCR assay (Fig. 2(g)-(i)).

Regarding the other 2 patients requiring hemodynamic supports, both of them had underlying medical histories. Patient 10 underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAHBSO) 3 years ago while patient 11 was diagnosed with HPT, CKD stage 5 requiring hemodialysis and gouty arthritis. Patient 10 developed cough and fever at day 3 post-exposure, and she was only admitted when COVID-19 screening came back as positive at day 13 post-exposure. In the ward, she was prescribed with azithromycin and completed a 1-week regime of hydroxychloroquine and lopinavir/ritonavir, but deteriorated thereafter, needing ICU for ventilation support. Vasopressors was commenced due to type I respiratory failure and septic shock. Meanwhile, she was also served with 3 doses of interferon Beta-1b together with dexamethasone. The latter was withheld due to the high procalcitonin level. Throughout the hospitalization, her laboratory data showed low ALC and D-dimer with high ferritin, LDH and CRP. Looking at patient 11, he was coughing by the time of exposure but was only admitted directly to ICU on day 14 with other symptoms, such as fever and lethargy. He was detected positive with COVID-19 infection at day 15 and was immediately ventilated. In ICU, his hemodynamic was supported with inotropes and vasopressors, and was put on sustained low-efficiency dialysis (SLED). In the ICU, he was started with hydroxychloroquine, lopinavir/ritonavir and interferon Beta-1b. His laboratory findings showed elevated CRP, LDH and very low ALC, but ferritin and D-dimer were not taken, nonetheless. The length of stay for patient 10 was 11 days with the duration of viral clearance from the first positive RT-PCR assay was 4 days. Unfortunately for patient 11, he succumbed to COVID-19 infection on day 5 of illness (Fig. 2(j)-(k)).

E. Clinical stage 5 (critically ill with multi-organ failures)

Patient 12 had underlying medical illnesses of T2DM and HPT. She was directly transferred into the ICU from a secondary healthcare facility, treated as severe pneumonia with acute respiratory distress syndrome (ARDS) and resolved septic shock requiring vasopressors, and then subsequently intubated for impending respiratory collapse. The time from exposure until medical attention was 18 days, exhibiting shortness of breath at day 13 post-exposure. Her initial RT-PCR assay on day 15 was negative, but repeated to be positive 4 days later, which was the same day as she was transferred to our setting and confirmed with clinical stage 5 COVID-19. In our facility, lopinavir/ritonavir, interferon Beta-1a and tocilizumab were on board. Hydroxychloroquine was contraindicated due to her medical history of glucose-6-phosphate dehydrogenase (G6PD) deficiency. Meanwhile, her tracheal aspiration culture and sensitivity grew extended spectrum beta-lactamase (ESBL) producing Klebsiella pneumoniae of which she was diagnosed as nosocomial infection and completed a course of 8 consecutive days of Meropenem. In ICU, she was also on regular hemodialysis for 26 days due to acute kidney injury with metabolic acidosis. Laboratory investigations showed elevated CRP, LDH, ferritin and procalcitonin, but normal ALC and D-dimer. Subsequent RT-PCR assay came back as negative on the fourth testing. On day 14 of hospitalization, patient 12 was extubated and transferred back to the general medical ward for the continuation of care. The duration of viral clearance from the first positive RT-PCR assay for her was 11 days (Fig. 2(l)).

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IV. DISCUSSION

This case series refers to COVID-19 as the disease and SARS-CoV-2 as the causal virus. In our setting, all COVID-19 cases are confirmed using RT-PCR assay, which is widely deployed in diagnostic virology. Our in-house laboratory RT-PCR testing is based on the diagnostic method proposed by previous literature [14]. To date, real-time RT-PCR assay remains the standard laboratory testing for SARS-CoV-2 apart from serology testing [15], [16]. In the crisis of COVID-19, it serves efficiently to confirm a viral infection within 2 hours [15], and hence, the result can be provided within 24 hours. The fact that it is not 100% sensitive; single throat swabs can only detect 78.2% of true infections, while duplicate tests manage to identify 86.2% of infections [15] should provide the justification on why 3 of our patients were negative at first and confirmed COVID-19 infection later on the second tests.

The duration of SARS-CoV-2 contact until symptom onset of COVID-19 infection or the incubation period was proposed to be 5.1 days, yet individuals might show some manifestations within 14 days of exposure [18]. Similar to our report, Centers for Disease Control and Prevention (CDC) also noted that the incubation period for COVID-19 could extend to 14 days, with a median time of 4 to 5 days from exposure to symptom onset [19], [20]. However, it was estimated that around 1% would develop symptoms after 14 days of active monitoring or quarantine [18]. These evidences explained why most of our patients exhibited the manifestations around day 2 to 6 (median = 5.5 days), with only patient 5 took the longest, which was on day 19.

We found that by day 15, most of our patients were PCR-negative; mean (SD) = 11.1 (3.1) days. This was in-lined with the report by WHO, whereby SARS-CoV-2 could initially be detected at 1 to 2 days prior to symptoms onset and persisted up to 2 weeks in upper respiratory tract samples in severe cases [21]. Furthermore, according to the position statement issued by the National Centre for Infectious Diseases and the Chapter of Infectious Disease Physicians, Academy of Medicine, Singapore, on 23 May 2020, it was stated that the infectious period of SARS-CoV-2 started 2.3 days before symptom onset, which peaked at 0.7 days and declined within 7 days. By day 15, RT-PCR for nasopharyngeal swabs of COVID-19 patients would become PCR-negative (30%) [22].

Our patients had the same clinical features as reported in previous literature. Often, the predominant symptoms of COVID-19 infections are fever and cough. Other common symptoms are sore throat, headache, runny nose, shortness of breath, joint and muscle ache, fatigue as well as nausea and vomiting [16], [20], [24], [25]. Contrary to other publications which noted that diarrhea could be quite rare with many reported as case series, we found that more than one third of our patients complained of loose stool while contracting the illness [20], [26].

Looking further into COVID-19 complications, we found that patient 12 had ARDS when she was transferred to our facility, while patient 8 was admitted into the ICU due to hypoxia. This is because COVID-19 is associated with a higher incidence of multi-organ involvement, particularly the respiratory system, when compared with other viral infections. In severe cases, it can impose as pneumonia, which eventually leads to ARDS and hypoxia. Often, the complications affect older individuals and those with comorbidities, as seen in both of our patients [27].

The routine blood examinations for COVID-19 infection were complete blood count, coagulation profile, biochemical tests, ferritin and procalcitonin [28]. Therefore, we decided to focus on ALC, CRP, ferritin, D-dimer, LDH and procalcitonin. It was basically due to the report stated patients receiving ICU care generally showed prolonged prothrombin time (PT), higher neutrophil counts, LDH, D-dimer, creatinine kinase and lymphopenia compared to their non-ICU care counterparts [29]. High ferritin [30] and procalcitonin measurements [31] also signified severe COVID-19 infection. Meanwhile, another retrospective cohort study found that in cases of COVID-19 sepsis, there were changes in laboratory values for D-Dimer, Interleukin 6, Cardiac troponin I, LDH, ferritin and lymphocyte count [28].

The guideline for the management of COVID-19 in Malaysia categorizes confirmed cases into 5 categories. In the early stage of infection, asymptomatic patients are diagnosed as clinical stage 1 while those with mild symptoms such as cough and sore throat, without fever or any comorbidity are classified as clinical stage 2a. Clinical stages 3 and 4 are considered as the pulmonary phase. An increasing trend in laboratory data, for instance, Ferritin, LDH, D-dimer may be suggestive of cytokine release syndrome. Clinical stage 3a is defined as chest X-ray with features of pneumonia, around day 5 to 10 of illness, without fever. Clinical stage 3b is considered when a patient in clinical stage 3a develops fever. Clinical stage 4a is diagnosed when a patient presents with hypoxemia or exertion dyspnea with relative desaturation of SPO2 and an increase in respiratory rate. If the patient develops fever, clinical stage 4b is considered. Clinical stage 5 is the hyper-inflammation phase, where the patient is in a critical stage, present with shock, ARDS and multi-organ failures [10].

Previously, the treatment should be started with hydroxychloroquine at clinical stage 2 and lopinavir/ritonavir would be prescribed in the presence of warning signs at clinical stage 3 and 4. At stage 5, it was recommended to include ribavirin and interferon [10]. As seen in this case series, past literature also documented the effectiveness of pairing hydroxychloroquine with azithromycin [32], [33]. However, on 15 October 2020, the Solidarity Trial published interim results whereby it was found that all 4 treatments evaluated (remdesivir, hydroxychloroquine, lopinavir/ritonavir and interferon) had little or no effect on overall mortality, initiation of ventilation and duration of hospital stay in hospitalized patients. The findings had elicited WHO into accepting the recommendation from its steering committee to discontinue the hydroxychloroquine and lopinavir/ritonavir arms in the trial on 4 July 2020 [34], which also prompted the update of the guideline for the management of COVID-19 in Malaysia on 3 November 2020. No treatment is required for patients with clinical stage 1 and 2. Favipiravir is considered for the treatment in clinical stage 3 while in the evidence of inflammation, steroids or tocilizumab should be added [10].

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In clinical stage 5, dexamethasone must be started in patients requiring oxygen therapy but any empiric antibiotic or antiviral therapy should be rapidly de-escalated or discontinued if there is no proven bacterial infection.

This study had several limitations. Apart from being a single-center experience, this case series design only permitted a small number of patients to be included. However, in view of the limited publications regarding the management of COVID-19 infection in Malaysia, this served as an insight based on past experience to guide other local settings. Definitely, it would have been better to include as many patients with COVID-19 as possible in the whole country to get a more comprehensive understanding of this virulent disease that had struck the globe.

V. CONCLUSION

Early on in the pandemic, hydroxychloroquine and lopinavir/ritonavir were among the suggested medications for COVID-19. As new evidence emerges, the search for specific treatment continues with only corticosteroids have been proven effective in the severe and critical stage of the infection. The findings of this case series prompted a demand for a more conscience and extensive study.

CONFLICT OF INTEREST

The authors declare that they do not have any personal conflict of interest that may arise from the research publication.

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Fig. 1(a) Tabulation of ALC levels outside the normal range (1.0 to 4.8 x 10^9 cell/L)

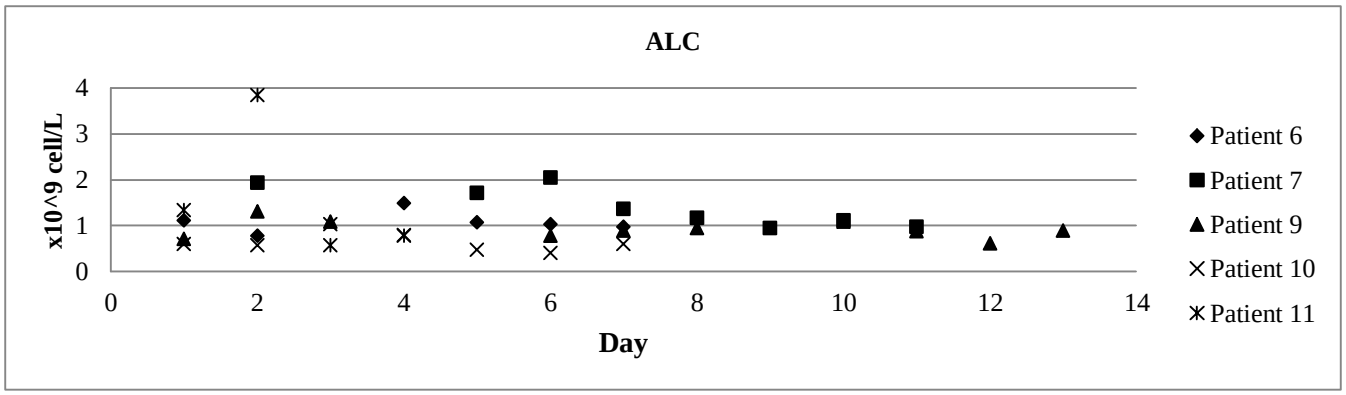

Fig. 1(b) Tabulation of CRP levels outside the normal range (above 10 mg/L)

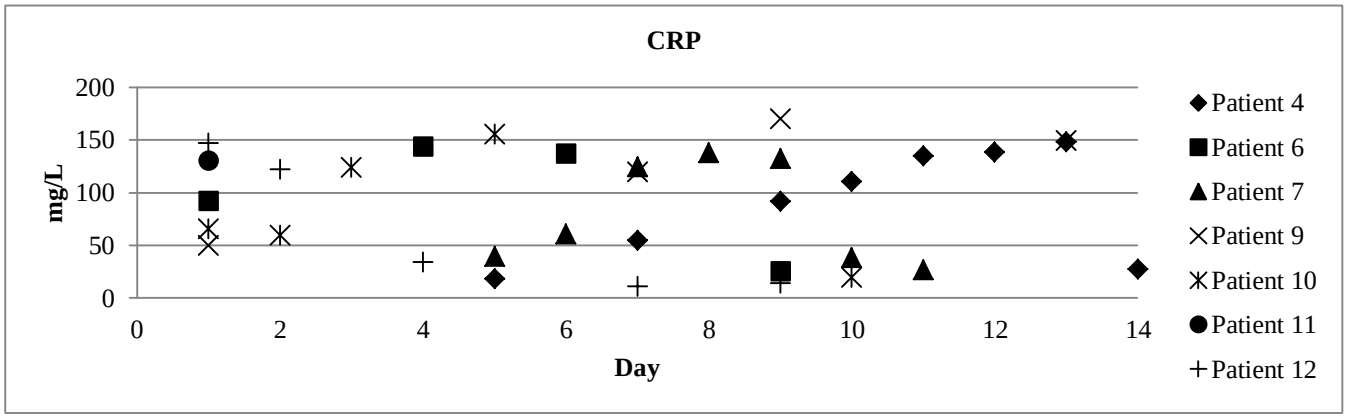

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Fig. 1(c) Tabulation of Ferritin levels outside the normal range (23.8 to 336.2 ug/L)

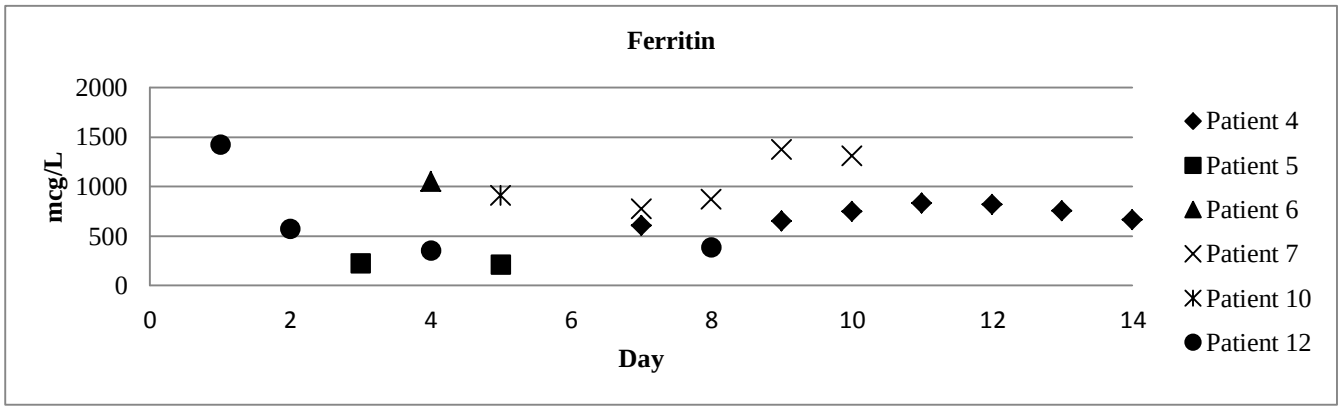

Fig. 1(d) Tabulation of LDH levels outside the normal range (less than 248 u/L)

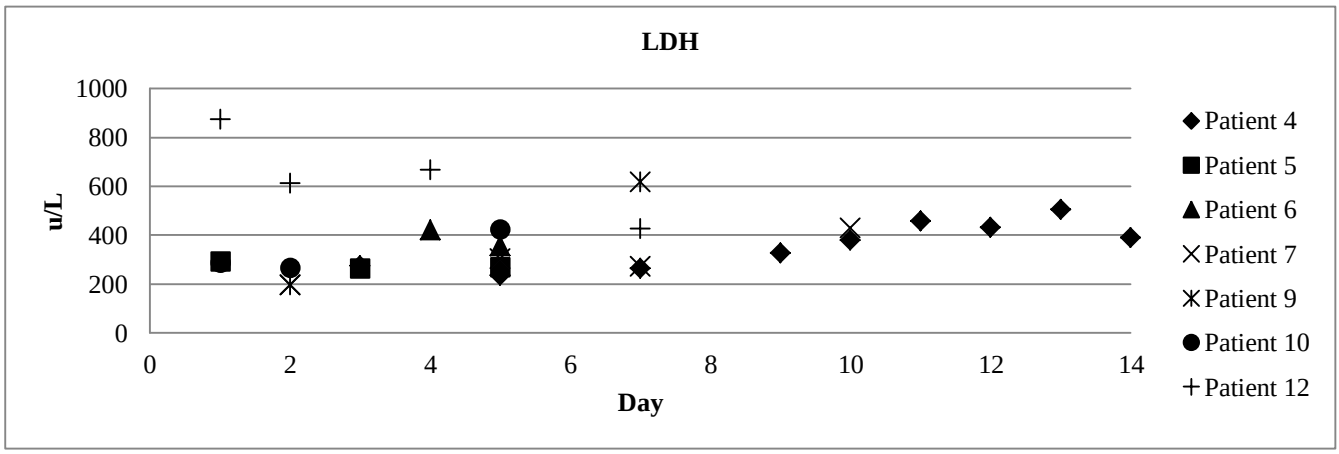

Fig. 1(e) Tabulation of D-dimer levels (normal range = more than 0.2)

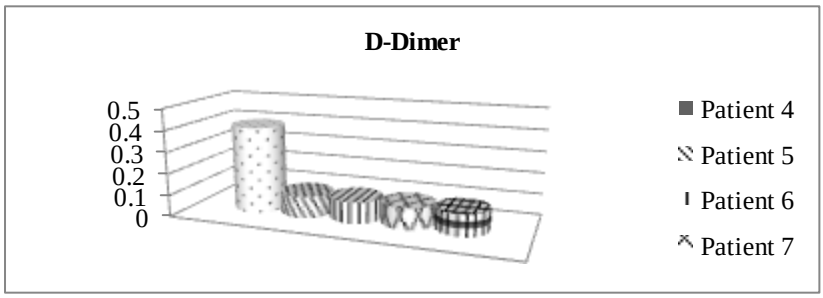

Fig. 1(f) Tabulation of procalciltonin levels (normal range = less than 0.1 ng/ml)

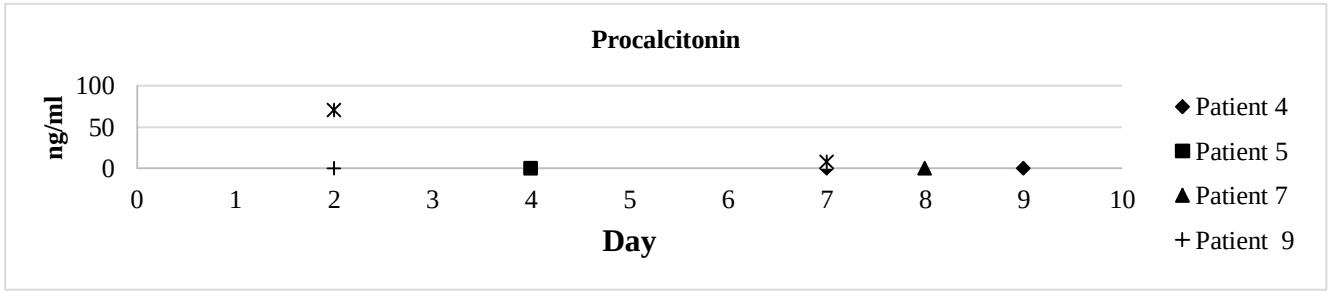

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Fig. 2(a) Patient 1, female, 31 years old, pregnant 37 weeks with thalassemia trait

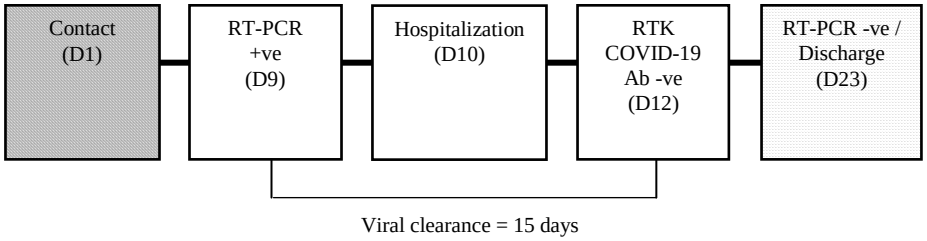

Fig. 2(b) Patient 2, female, 30 years old, no known medical illness

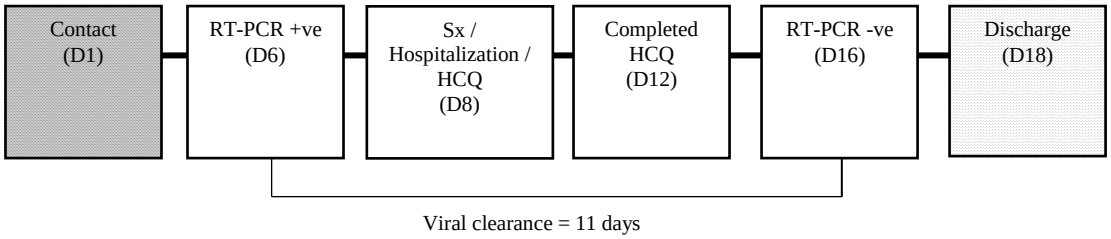

Fig. 2(c) Patient 3, male, 29 years old, no known medical illness

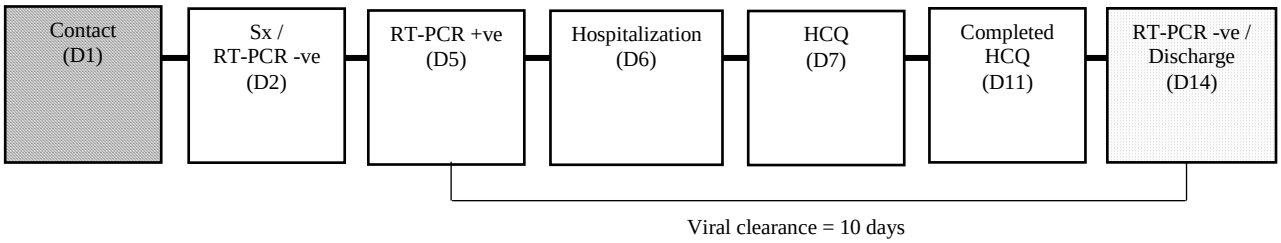

Fig. 2(d) Patient 4, male, 45 years old, T2DM

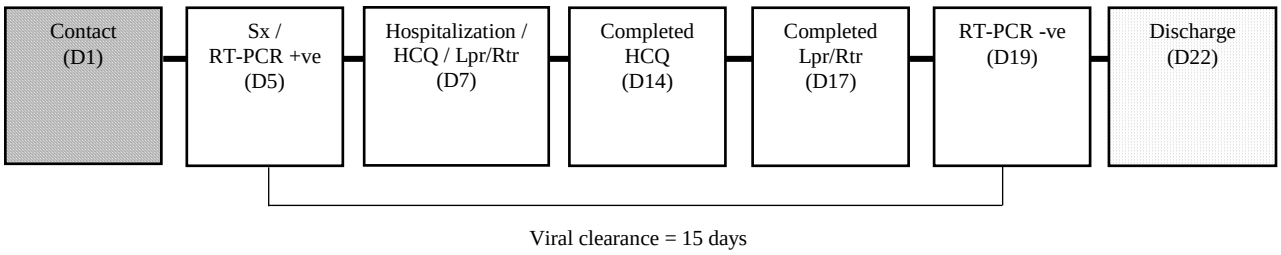

Fig. 2(e) Patient 5, female, 60 years old, T2DM with HPT

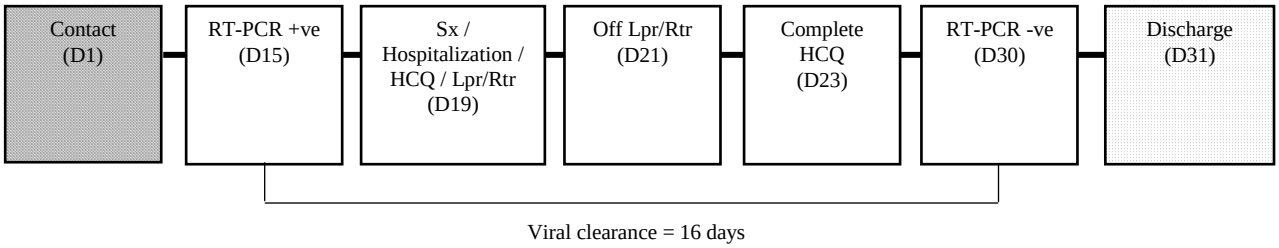

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Fig. 2(f) Patient 6, male, 58 years old, T2DM with HPT

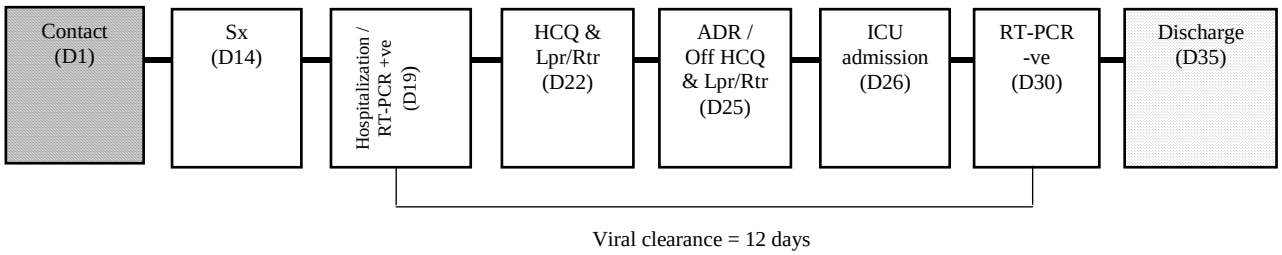


Fig. 2(g) Patient 7, male, 53 years old, T2DM with HPL

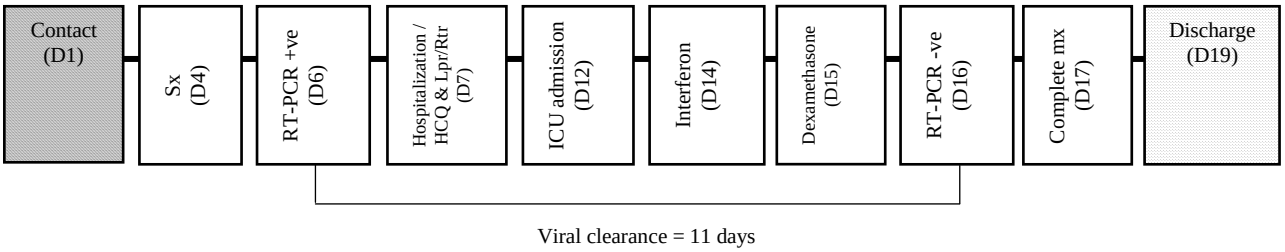


Fig. 2(h) Patient 8, female, 60 years old, T2DM, HPT with HPL

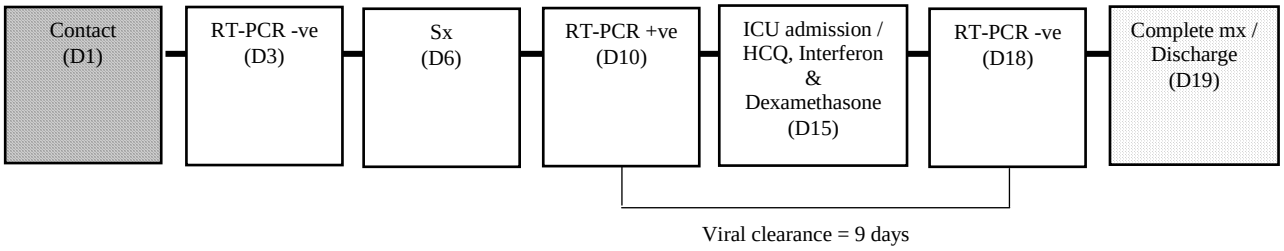


Fig. 2(i) Patient 9, male, 74 years old, T2DM, HPT, Gout, CKD-3 with allergic rhinitis

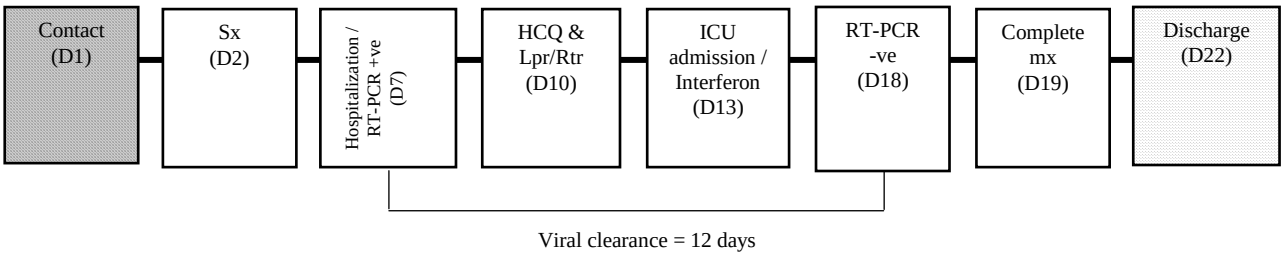


Fig. 2(j) Patient 10, female, 51 years old, TABHSO

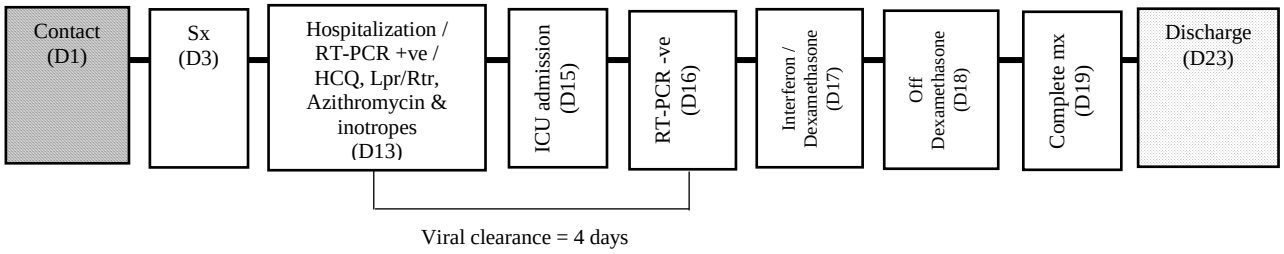


Fig. 2(k) Patient 11, male, 69 years old, HPT, CKD-5 on HD with gouty arthritis

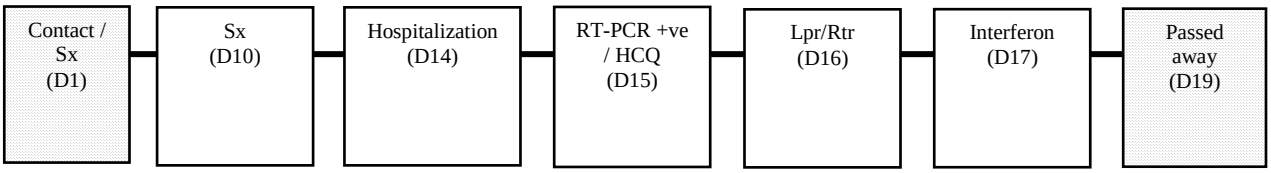
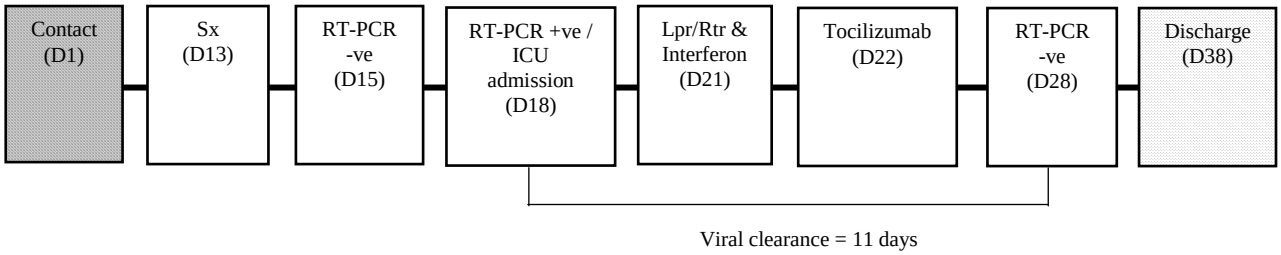


Fig. 2(l) Patient 12, female, 64 years old, T2DM with HPT



D = day, RT-PCR +ve = positive Reverse Transcription-Polymerase Chain Reaction assay, RT-PCR -ve = negative Reverse Transcription-Polymerase Chain Reaction assay, RTK COVID-19 Ab –ve = negative rapid test kit for COVID-19 antibody assay, Sx = symptom(s), HCQ = hydroxychloroquine, T2DM = type 2 diabetes mellitus, HPT = hypertension, Lpr/Rtr = lopinavir/ritonavir, ADR = adverse drug reaction, ICU = intensive care unit, mx = medication(s), TABHSO = total abdominal hysterectomy with bilateral salpingo-oophorectomy, CKD-5 = chronic kidney disease stage 5, HD = hemodialysis