Clinical Characteristics and Outcomes of First 100 Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-Cov-2) Patients: A Single Center Experience

Kashif Naeem, Vinod Choondal, Mahmoud Hamouri, Ahmed Abbas, Sreevidya Machingal, Farzeela Fahad, Kusay Almusa, Mona Osman, Afaf Ashoor, Mahdi Sial, Mohammad Ali, Eslam Siddiq, Waleed Flayyih, and Najeeba Abdulrazzaq

Abstract—Since December 2019, the world has witnessed the Coronavirus disease caused by the Severe Acute Respiratory Syndrome Coronavirus-2, which has been declared a pandemic by the World Health Organization in March 2020. We share our initial experience at a center in Dubai, UAE, with a diverse ethnic population and present the clinical characteristics of the first 100 laboratory-confirmed coronavirus disease patients. In this retrospective, single center study, we included all adult (≥ 12 years old) laboratory-confirmed COVID-19 patients who presented at Al Kuwait Hospital, Dubai, UAE between 21 February 2020 and 15 April 2020. We extracted data on the demographics, clinical presentation, laboratory and imaging results, treatment, complications and outcomes from the electronic medical records. Results are expressed as counts and percentages for categorical variables, and mean (with range) for continuous variables. A total of one hundred patients were studied. Mean age was 44 years (range 13-82 years); 16% were aged more than 60 years. 69% were males. Most of the patients (41%) belonged to South Asia, while 33% belonged to the Middle East. 21% were diabetics, 20% were hypertensives, 10% were active smokers and 6% were known cases of asthma/chronic obstructive lung disease. Upon admission, fever (46%) and dry cough (41%) were the most common symptoms, while 24% were asymptomatic on admission. Mean duration of symptoms before hospital admission was 5.1 days (range 1-14 days). Upon admission, 8% had low platelets, 7% had lymphopenia, 61% had high C-reactive protein, 48% had high ferritin, 37% had high lactate dehydrogenase, and 31% had high D-dimers. 63% had normal chest radiography upon presentation. Computed tomography chest showed ground glass opacification in 80%, consolidation in 21% while 14% had ill defined patchy opacities. All lesions were located peripherally and 79% had bilateral involvement with predominantly lower lobe disease. 8% had critical illness. Chloroquine/hydroxychloroquine (93%) and the protease inhibitor lopinavir-ritonavir (86%) were the most commonly prescribed treatment. 8% needed non-invasive ventilation and 7% were intubated and ventilated invasively. 7% developed acute respiratory distress syndrome, 5% went into septic shock and needed vasopressor support, 2% developed acute cardiac injury, 17% had acute kidney injury, 11% had acute liver injury and 2% developed disseminated intravascular coagulation. Almost half of the patients (49%) were declared recovered after having two negative COVID-19 PCR tests while 5% died. We concluded that the Coronavirus disease 2019 (COVID-19) presents with different clinical characteristics in the UAE with an ethnic diverse background. Majority affected were young, males and diabetic. One-fourth were asymptomatic on

admission, while fever and dry cough were the most common symptoms. High C-reactive protein and ferritin on admission was common. Most of the patients had normal chest radiograph on admission, while computed tomography chest showed the characteristic findings in over two-thirds. Almost half of our patients recovered while 5% died. This is an initial experience only and increased patient cohort will provide further information.

Index Terms—Clinical characteristics; Coronavirus disease 2019; Severe acute respiratory syndrome coronavirus-2.

I. INTRODUCTION

Human coronaviruses are pathogens that have been largely known to cause the ‘common cold’ in otherwise healthy people. However, the epidemiology changed significantly when, in the 21st century, two highly pathogenic coronaviruses - Severe Acute Respiratory Syndrome (SARS) coronavirus and Middle East Respiratory Syndrome (MERS) coronavirus - emerged to cause global epidemics with alarming morbidity and mortality [1,2]. In December 2019, a new strain of coronavirus, officially named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Cov-2), was first isolated from three patients with Coronavirus disease 2019 (COVID-19) by the Chinese Center for Disease Control and Prevention [3,4], connected to the cluster of acute respiratory illness cases from Wuhan, China. On 30 January 2020, the World Health Organization declared that the outbreak of COVID-19 constituted a Public Health Emergency of International Concern [5]. Subsequently, based on the high levels of global spread and the severity of COVID-19, on 11 March 2020, the Director-General of the World Health Organisation declared the COVID-19 outbreak a pandemic [6]. As of 11 May 2020, the total number of confirmed cases worldwide are 4,013,728, with 278,993 confirmed deaths among the 215 countries affected (World Health Organisation).

United Arab Emirates (UAE) has a unique population that comprises people of various ethnic backgrounds and is home to over 200 nationalities. We have 18,198 confirmed cases with 198 reported deaths according to the World Health Organisation data (as of 11 May 2020). Our center, Al Kuwait Hospital, Dubai began to receive confirmed cases from 21 February 2020. Owing to the diverse population and paucity of local data, we aim to share our initial experience while managing this disease and present data on the clinical characteristics of 100 patients including the demographics, symptomatology, laboratory/radiological findings, treatment and outcomes.

II. METHODS

The study was conducted at Al Kuwait Hospital, Dubai, UAE between 21 February 2020 and 15 April 2020. Ethical approval was obtained from Dubai Research and Ethics Committee. Informed patient consent was waived as data collection was largely retrospective.

A. Study participants:

This study was a retrospective analysis of all confirmed SARS-Cov-2 patients who were admitted to our center between 21 February 2020 and 15 April 2020. We included all consecutive patients who were age 12 years or more and had a laboratory confirmed positive Polymerase Chain Reaction (PCR) result irrespective of the ethnic background. We excluded patients who were suspected of COVID-19 infection but had not undergone PCR testing. The laboratory used Sacace Real Time Reverse Transcription Polymerase Chain Reaction (rRT-PCR) test to diagnose COVID-19 disease. The test was performed on patients' nasopharyngeal swabs. RNA was extracted using SaMag Viral Nucleic Acid Extraction system. Extracted RNA was amplified using BGI-Real Time Fluorescent RT-PCR kit for the detection of COVID-19. After the initial diagnosis, the tests were repeated during the hospital stay every 72 hours until two consecutive negative samples were achieved. Transfers from other centers within the same health authority were considered a single visit. Descriptive statistics were used to summarize the data. Results are expressed as counts and percentages for categorical variables, and mean (with range) for continuous variables.

B. Data sources:

We extracted the data from the electronic medical records of the hospital that stores the daily record keeping and all investigations. We obtained information about the patient demographics, history, laboratory tests, radiological investigations, treatment, complications and outcomes. Details of patient symptoms and duration, exposure history, ethnicity and comorbidities were also noted. Laboratory tests recorded on admission included full blood count, coagulation profile, creatinine and electrolytes, liver enzymes, inflammatory markers (C-reactive protein, procalcitonin, ferritin, d-dimers, lactate dehydrogenase) and cardiac

markers (high-sensitivity troponin, pro-B type natriuretic peptide). We reviewed admission chest radiography and high-resolution chest computed tomography (HRCT) with the radiologist to record accurate findings. Detailed records of in-patient treatment were obtained for each patient. Complications relating to multi-organ failure and clinical outcomes were also noted.

C. Study outcomes:

All patients were followed for deterioration in clinical outcomes. This included the need for ventilation (invasive and non-invasive), development of acute respiratory distress syndrome, septic shock with need for vasopressors, acidosis, acute cardiac/kidney/liver injury and disseminated intravascular coagulation. Discharge outcomes were recorded as deaths, recovered cases and transfer to another isolation facility.

D. Study definitions:

Septic shock was defined as a clinical construct of sepsis with persisting hypotension requiring vasopressors to maintain MAP ≥ 65 mm Hg and having a serum lactate level > 2 mmol/L (18 mg/dL) despite adequate volume resuscitation [7]. *Acute respiratory distress syndrome* was defined as per the Berlin Definition; the development of bilateral lung opacities (not fully explained by effusions, lobar/lung collapse, or nodules), respiratory failure not fully explained by cardiac failure or fluid overload and low PaO₂/FiO₂, within 1 week of a known clinical insult or new or worsening respiratory symptoms [8]. *Acute kidney injury* was defined as any of the following: increase in serum creatinine ≥ 0.3 mg/dL (≥ 26.5 μ mol/L) within 48 hrs; or increase in serum creatinine ≥ 1.5 times baseline, which is known or presumed to have occurred within the prior 7 days; or urine volume < 0.5 ml/kg/hr for 6 hours [9]. *Acute liver injury* was defined as the presence of high alanine aminotransferase (ALT) and/or high aspartate aminotransferase (AST) more than 5 times the upper normal limit. *Acute cardiac injury* was defined as the presence of high-sensitivity troponin-I level above the 99th percentile upper reference limit. *Acidosis* was defined as pH < 7.35 on an arterial blood gas sample. *Type 2 respiratory failure* was defined as an arterial oxygen tension (Pa,O₂) of < 8.0 kPa (60 mmHg), an arterial carbon dioxide tension (Pa,CO₂) of > 6.0 kPa (45 mmHg) [10]. *Disseminated intravascular coagulation* was defined in the context of sepsis as an acquired syndrome characterized by activation of coagulation pathways, resulting in the formation of intravascular thrombi and depletion of platelets and coagulation factors, leading to decreased platelet count, increased prothrombin time and elevated d-dimers. *Recovered* (from infection) was defined by two consecutive negative PCR tests with an interval between the two tests of at least 48 hours, in the absence of COVID-19 related symptoms [11]. Disease severity was classified as *mild* (non-pneumonia or mild pneumonia), *severe* (dyspnea, respiratory rate ≥ 30 /min, blood oxygen

saturation $\leq 93\%$, ratio of partial pressure of arterial oxygen (PaO₂) to fraction of inspired oxygen (FiO₂) < 300 , lung infiltrates $> 50\%$ within 24-48 hours), and *critical* (respiratory failure, septic shock, multiorgan dysfunction/failure) [12].

III. RESULTS

One hundred patients were studied. All had laboratory confirmed COVID-19 disease.

A. Clinical data:

Table 1 describes the clinical data for 100 patients. Mean age was 44 years (range 13-82 years). 16% were aged more than 60 years. 69% were males. Regarding ethnic backgrounds, most of the patients (41%) belonged to South Asia (India, Pakistan, Bangladesh and Nepal), while 33% belonged to the Middle East. 28% had positive travel history while 38% tested positive after they were screened due to the history of close contacts with confirmed COVID-19 patients. Regarding the comorbidities, 21% were diabetics, 20% were hypertensives and 10% were active smokers. 6% were known cases of asthma/chronic obstructive disease. Upon admission, fever (46%) and dry cough (41%) were the most common symptoms reported. 24% were asymptomatic on admission. Mean duration of symptoms before hospital admission was 5.1 days (range 1-14 days). Measurement of vital signs upon admission showed that 5% had temperature $> 38^\circ\text{C}$, 5% presented with low systolic blood pressure (SBP) < 110 mmHg, 24% had high SBP > 140 mmHg, 9% had tachypnea with respiratory rate 20 or more, 4% had tachycardia, and only 1% had low oxygen saturations $< 93\%$.

Table 1: Clinical characteristics of 100 SARS-CoV-2 positive patients.

Characteristic	No. of patients (total=100)
Age: mean (range), years > 60 years, no. (%)	44 (13-82) 16 (16)
Males: no. (%)	69 (69)
Regions according to nationality: no. (%)	
Middle East	33 (33)
South Asia	41 (41)
South-East Asia	5 (5)
East Asia	2 (2)
East Europe	2 (2)
West Europe	10 (10)
Africa	3 (3)
Positive travel history: no. (%)	28 (28)
Positive contact history: no. (%)	38 (38)
Comorbidities: no. (%)	
Diabetes Mellitus	21 (21)
Hypertension	20 (20)
Smoker	10 (10)
Chronic kidney disease	2 (2)
Ischemic heart disease	1 (1)
Asthma/COPD	6 (6)
Hypothyroidism	5 (5)
Pregnancy	3 (3)
Symptom onset to hospital admission: days, mean (range)	5.1 (1-14)
Symptoms on admission: no. (%)	
None	24 (24)
Fever	46 (46)
Dry cough	41 (41)
Shortness of breath	14 (14)
Sore throat	18 (18)
Runny nose	12 (12)

Rigors/chills	7 (7)
Bodyaches	12 (12)
Headache	14 (14)
Nausea/vomiting	3 (3)
Diarrhoea	3 (3)
Loss of smell/taste	1 (1)
Vital signs on admission: no. (%)	
Temperature $> 38^\circ\text{C}$	5 (5)
Systolic blood pressure < 110 mmHg	5 (5)
> 140 mmHg	24 (24)
Respiratory rate ≥ 20 /minute	9 (9)
Pulse > 100 /minute	4 (4)
Oxygen saturations $< 93\%$	1 (1)

B. Laboratory and imaging data:

Table 2 describes the laboratory and imaging results of 100 patients upon admission. 6% were anemic with hemoglobin less than 11 g/dL. 8% had leucopenia while 5% had leucocytosis. 8% had low platelets while 7% had lymphopenia. Regarding the inflammatory markers, C-reactive protein was high in 61%, while procalcitonin was high in 10%. 48% had high ferritin, 37% had high lactate dehydrogenase, and 31% had high D-dimers. 6% had estimated GFR < 60 ml/min/1.73m². 34% had high alanine aminotransferase. Cardiac markers showed high troponin-I in 4% and high pro-BNP in 16%.

All patients had chest radiography on admission and high resolution computed tomography (HRCT) chest within 48 hours. 63% had normal chest radiography upon admission, 37% had abnormal findings, and 11% developed abnormalities after an initial normal x ray during the hospital stay. In patients who presented with an abnormal xray, 64% showed fine reticular opacities while 39% had patchy opacities. The lesions predominantly affected lower zones (92%) and peripheral lung fields (100%). HRCT chest was abnormal in 76% upon admission. The most common finding was ground glass opacification seen in 80% of abnormal CT scans. Consolidation was present in 21% while 14% had ill defined patchy opacities. All lesions were located peripherally and 79% had bilateral involvement with predominantly lower lobe disease.

Table 2: Laboratory and imaging findings of 100 SARS-CoV-2 positive patients.

Characteristic	No. of patients: no./total no. (%)
Time taken to recover: Time taken from 1st positive PCR result to 2nd consecutive negative PCR result, days, mean (range)	12.3 (5-26)

Laboratory parameters:	
Hemoglobin < 11 g/dL	6/100 (6)
White cell count < 4x10 ³ /mCL	8/100 (8)
> 11x10 ³ /mCL	5/100 (5)
Platelets < 150x10 ³ /mCL	8/100 (8)
> 450x10 ³ /mCL	1/100 (1)
Absolute lymphocyte count < 1.0x10 ³ /mCL	7/100 (7)
International normalised ratio > 1.3	1/76 (1)
C-reactive protein ≤ 3 mg/L	39/100 (39)
> 3 mg/L	61/100 (61)
Procalcitonin > 0.10 ug/L	8/78 (10)
Sodium <135 mmol/L	11/100 (11)
>145 mmol/L	1/100 (1)
Potassium <3.5 mmol/L	13/100 (13)
> 5 mmol/L	2/100 (2)
Urea >8 mmol/L	7/100 (7)
Creatinine >110 umol/l	9/99 (9)
Estimated glomerular filtration rate <60 ml/min/1.73m ²	6/99 (6)
Bilirubin >10umol/l	17/100 (17)
Alanine aminotransferase >50 IU/L	34/100 (34)
Aspartate aminotransferase >50 IU/L	14/100 (14)
Alkaline phosphatase >150 IU/L	5/100 (5)
Albumin <30 gm/L	8/100 (8)
D-dimer >0.5 mg/dL	15/48 (31)
Ferritin >250 mcg/L	25/52 (48)
High-sensitivity troponin >60 ng/L	2/49 (4)
Total creatine kinase >200 IU/L	4/42 (10)
Pro-B type natriuretic peptide >200 ng/L	5/32 (16)
Lactate dehydrogenase >225 IU/L	27/70 (37)
Chest x ray findings on admission:	
Normal on admission	60/96 (63)
Abnormal on admission	36/96 (37)
Abnormal after initial normal xray	11/96 (11)
Findings:	
Fine reticular infiltrates	23/36 (64)
Patchy opacities	14/36 (39)
Bilateral	17/36 (47)
Predominantly lower zones	33/36 (92)
Peripheral	36/36 (100)
Central/hilar	3/36 (8)
Pleural effusion	2/36 (5)
High resolution computed tomography (HRCT) chest (within 48 hrs) :	
Normal	23/94 (24)
Abnormal	71/94 (76)
Findings:	
Ground glass opacification	57/71 (80)
Consolidation	15/71 (21)
Ill-defined patchy opacities	10/71 (14)
Septal thickening	4/71 (6)
Bilateral	56/71 (79)
Peripheral	71/71 (100)
Predominantly lower lobes	33/71 (46)
Pleural thickening	2/71 (3)
Pleural effusion	4/71 (6)
Lymphadenopathy	3/71 (4)

developed acute cardiac injury, 17% had acute kidney injury, 11% had acute liver injury and 2% developed disseminated intravascular coagulation. Almost half of the patients (49%) were declared recovered after having two negative COVID-19 PCR tests while 5% died.

Table 3: Severity, Treatment, complications and outcomes of 100 SARS-CoV-2 positive patients.

Characteristic	No. of patients (total=100) n (%)
Severity of illness:	
Mild	79 (79)
Severe	13 (13)
Critical	8 (8)
In-patient treatment:	
Chloroquine/hydroxychloroquine	93 (93)
Lopinavir+Ritonavir (Kaletra)	86 (86)
Favipiravir	7 (7)
Interferon-alpha	16 (16)
Ribavirin	9 (9)
Oseltamivir	4 (4)
Oral azithromycin	12 (12)
Intravenous antibiotics	21 (21)
Intravenous steroids	9 (9)
Anidulafungin	4 (4)
Tocilizumab	7 (7)
Face mask oxygen	20 (20)
Non-invasive ventilation	8 (8)
Invasive ventilation	7 (7)
Continuous renal replacement therapy (CRRT)	1 (1)
Complications during hospital stay:	
Admission to intensive care unit (ICU)	13 (13)
Septic shock	5 (5)
Intravenous vasopressors	5 (5)
Acute respiratory distress syndrome	7 (7)
Type 2 respiratory failure	7 (7)
Acute cardiac injury	2(2)
Acidosis	6 (6)
Acute kidney injury	17(17)
Acute liver injury	11(11)
Disseminated intravascular coagulation	2(2)
Gastro-intestinal bleeding	1 (1)
Outcomes at data cutoff:	
Recovered	49 (49)
Death	5 (5)
Transferred to another isolation facility	32 (32)
Still admitted	14 (14)

C. Severity, treatment, complications and outcomes data:

Table 3 describes the details of disease severity, in-patient treatment given, complications and clinical outcomes of 100 patients. Most of the patients (79%) had mild disease, 13% had severe disease and 8% had critical illness. The medications were prescribed according to the local guidelines. The most commonly prescribed treatment was the antimalarial drug chloroquine/hydroxychloroquine (93%) and the protease inhibitor combination lopinavir-ritonavir (86%), followed by intravenous antibiotics (21%), interferon-alpha (16%), oral azithromycin (12%), ribavirin (9%), intravenous steroids (9%), favipiravir (7%), interleukin-6 receptor antagonist tocilizumab (7%), and the antifungal drug anidulafungin (4%). 20% needed face mask oxygen to maintain oxygen saturations, while 8% needed non-invasive ventilation and 7% were intubated and ventilated invasively. 1 patient needed continuous renal replacement therapy. 13% were admitted to the intensive care unit (ICU) once they fulfilled the criteria for ICU admission as per local guidelines. 7% developed acute respiratory distress syndrome, 5% went into septic shock and needed vasopressor support. 2%

IV. DISCUSSION

This retrospective study is the first from the middle east region that provides an insight to an initial experience of a single center in managing the first 100 laboratory confirmed Covid-19 patients.

Mean age of patients in our study was 44 years with a range from 13-82 years. This indicates a predominantly young population as only 16% were aged more than 60 years. Earliest data from China where they performed a descriptive, exploratory analysis of all cases diagnosed as of February 11, 2020, found that among the 44,672 confirmed cases, most were aged 30–79 years [13]. However, among the 5,700 COVID-19 patients studied in the New York area, median age was 63 years, interquartile range 52-75 and range 0-107 years [14]. 69% were males in our study, hence the conclusions drawn may not be applicable to women. UAE hosts an ethnically diverse population that is reflected in the patient cohort. Most patients (41%) belonged to South-Asia while 33% belonged to the Middle East. Our study does not

analyse data according to the ethnic background as findings are presented taking the whole cohort together. We found out that among our patients, 21% were diabetic, 20% hypertensives and 10% smokers. Only 6% had previous history of asthma/COPD. In a systemic review and meta analysis of seven studies [15], the most prevalent comorbidities were hypertension (21.1%, 95% CI: 13.0–27.2%) and diabetes (9.7%, 95% CI: 7.2–12.2%), followed by cardiovascular disease (8.4%, 95% CI: 3.8–13.8%) and respiratory system disease (1.5%, 95% CI: 0.9–2.1%). When compared between severe and non-severe patients, the pooled odds ratio of hypertension, respiratory system disease, and cardiovascular disease were 2.36 (95% CI: 1.46–3.83), 2.46 (95% CI: 1.76–3.44) and 3.42 (95% CI: 1.88–6.22) respectively. The study from New York area reported hypertension (56.6%), obesity (41.7%) and diabetes (33.8%) as the most noted comorbidities [14].

We looked at the time from symptom onset to hospital admission that was found to be a mean of 5.1 days. Still, 24% of our patients were asymptomatic on admission, hence, providing some indication of the incubation period of the virus. Regarding the symptoms on admission, we found that most patients presented with fever (46%) and dry cough (41%). Guan et al [16] analysed 1,099 COVID-19 patients and found fever (44%), cough (68%) and dyspnea (19%) as common symptoms. Yang et al [15] reported in a meta analysis of 1,576 infected patients, fever (91.3%, 95% CI: 86–97%), cough (67.7%, 95% CI: 59–76%), fatigue (51.0%, 95% CI: 34–68%) and dyspnea (30.4%, 95% CI: 21–40%) as the most common symptoms.

A significant number of hematological and biochemical abnormalities were detected in our patients on admission laboratory testing. 7% had lymphopenia, 8% had thrombocytopenia and 6% had anemia. Of these, lymphopenia and thrombocytopenia have been associated with worse prognosis [17]. Guan et al [16] reported lymphopenia in 83%, thrombocytopenia in 36%, and leukopenia in 34%. Huang et al [18] and Wang et al [19] have reported an association between lymphopenia and the need for intensive care, while Wu et al [20] reported an association between lymphopenia and the development of acute respiratory distress syndrome. A meta analysis of nine studies has suggested that thrombocytopenia is significantly associated with the severity of COVID-19 disease [21]. Regarding the inflammatory markers, our study also showed that on admission 61% had high C-reactive protein (CRP), 10% had high pro-calcitonin and 37% had high lactate dehydrogenase (LDH). The high CRP might even indicate a co-existent bacterial infection in these patients. These findings correlate remarkably well with the findings from Guan et al [16] who reported high CRP in 60.7%, high pro-calcitonin in 5.5%, high LDH in 41% of patients and high ferritin in 48%. Wu et al [20] have reported high CRP, ferritin and LDH to be associated with the development of acute respiratory distress syndrome, intensive care and even mortality. Coagulation abnormalities are frequently found in

severe COVID-19 patients. Our study showed high d-dimers in 31%. In a multicenter retrospective cohort study, increases d-dimer levels ($>1\mu\text{g/ml}$) were significantly associated with in-hospital death in the multivariate analysis ($p=0.003$) [22]. We performed chest radiography on admission for all and high-resolution CT scan of chest within 48 hours. Comparing the two modalities, CT chest has proven to be more specific and sensitive to the extent that CT findings may be present even before symptoms, and may be diagnostic in false-negative PCR tested patients [23]. Our study showed that the majority (63%) presented with a normal chest radiograph, while 11% developed abnormal findings after initial normal radiograph. Therefore, we concluded that chest radiography is more appropriate to follow the progression of disease, while CT chest provided characteristic diagnostic information. We found that the most common finding on chest CT scan was ground glass opacification (80%), followed by consolidation (21%). All lesions involved lung periphery, 79% bilateral, with 46% affecting the lower lobes predominantly. A systematic review of 919 COVID-19 patients [24] showed that the characteristic findings included ground glass opacification (88.0%), bilateral involvement (87.5%), peripheral distribution (76.0%), and multilobar involvement (78.8%). We found that 79% of our patients belonged to the mild severity of illness; 13% severe; and 8% critical.

The patients were treated as per the local guidelines. We used oral chloroquine phosphate or hydroxychloroquine or lopinavir-ritonavir for 5 days for any symptomatic laboratory-confirmed COVID-19 patient without pneumonia. In the presence of pneumonia, the drugs are combined and given for 7 days; additionally favipiravir and remdesivir is considered. In critically ill patients, in addition to above, tocilizumab and interferon-alfa is considered. Most of our patients received chloroquine/hydroxychloroquine (93%) and lopinavir-ritonavir (86%). Additionally, 7% had favipiravir, 16% had interferon-alfa, 12% oral azithromycin, 9% intravenous steroids, 7% tocilizumab. We understand that limited trial data exists for the suggested current treatment. A double-blind randomised phase 2 trial in Brazil [25] evaluated high versus low dosages of chloroquine where the high dose regimen was discontinued due to cardiotoxicity. In a randomised, parallel group study in 31 patients with COVID-19 pneumonia, hydroxychloroquine was associated with early symptom relief [26]. A randomised, open-label trial of 199 severe COVID-19 patients showed that lopinavir-ritonavir did not reduce time to clinical improvement or other events [27].

Our study showed that 8% patients had critical illness based on pre-defined criteria. Overall, 8% needed bilevel positive airway pressure (BiPAP) while 7% were intubated and ventilated to maintain ventilation. As for the complications, 5% had septic shock needing vasopressors, 7% developed acute respiratory distress syndrome and type 2 respiratory failure, 17% had acute kidney injury, 11% had acute liver injury, 2% had acute cardiac injury. In a study of

5,700 patients [14], 14% were treated in intensive care, 12% needed invasive mechanical ventilation and 21% died. In a small study of 21 critically ill patients with COVID-19 [28], 19% needed non-invasive positive pressure ventilation, 71% needed mechanical ventilation, vasopressors were used for 67%, 57% developed acute respiratory distress syndrome, 19% had acute kidney injury, 33% had cardiomyopathy and 14% developed acute hepatic injury; 52% died. Our study also found out that almost half of the patients (49%) recovered as proved by laboratory confirmed negative PCR tests, while 5% died.

The study has limitations. This is a retrospective analysis of a small cohort from a single center. However, this is the first initial experience reported from the Gulf region and highlights the clinical characteristics of the disease in this region.

V. CONCLUSION

COVID-19 presents with different clinical characteristics in the UAE with an ethnic diverse background. Majority affected were young, males and diabetic. One-fourth were asymptomatic on admission, while fever and dry cough were the most common symptoms. High CRP and ferritin on admission is common. Most of the patients had normal chest radiograph on admission, while CT chest showed the characteristic findings in over two-thirds. Almost half of our patients recovered while 5% died. This is an initial experience only and increased patient cohort will provide further information.

VI. FUNDING

The study is not funded.

VII. CONFLICT OF INTEREST

All authors have no conflict of interest to declare.

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IX. FIRST AUTHOR BIOGRAPHY

Dr Kashif Bin Naeem [MBBS, MRCP (UK), CESR Cardiology (UK)] is currently working as a Consultant Cardiologist at Al Kuwait Hospital, Dubai, UAE. After completing MBBS from Pakistan, he moved to UK where he completed his Residency in Internal Medicine from London and achieved MRCP (UK) in 2007. He pursued his career in Non-invasive Cardiology and was awarded CESR, CCT equivalent, in Cardiology by the

General Medical Council/Royal College of Physicians, UK in 2018. His work affiliation includes Guy's and St. Thomas' Hospitals, London; London Chest Hospital; Royal Free Hospital, London; and King Fahad Medical City, Riyadh. He specializes in Advanced Echocardiography and been awarded Diplomate American Board of Echocardiography. He is a member of British Cardiovascular Society, European Society of Cardiology (ESC), Emirates Cardiac Society, Acute Cardiovascular Care Association (ESCC) and European Association of Cardio Vascular Imaging. He is an active researcher; published several papers in peer-reviewed journals and presented abstracts in European Cardiology conferences. He has keen interest in voluntary work where he offers free consultation at medical camps, World Heart Day and World Hypertension Day events; and visits schools to educate students. He is affiliated with the University of Sharjah, UAE to teach year 5 medical students. His current interests include preventive cardiology and echocardiography and has delivered talks at different platforms.