

Original Paper

N₂N Parallel Therapy for COVID-19 Intervention for Effective Clinical Outcome, a Case Study

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Abstract

Background: Although several therapeutic agents have been evaluated for the treatment of COVID-19, none has yet been shown to be effective. Large Randomized Control trials are required to see the efficacy of current medical treatment.

Objective: Evaluating the role of N₂N parallel therapy for adult COVID-19 patients with lower respiratory tract infection for early discharge from hospital or keeping in hospital for infection control only.

Holistic Med provides a Complementary and Alternative medical platform together with an Integrative approach incorporating timely prescribed Conventional Medicine to achieve complete cure.

Case History: A 57-years old emergency physician developed symptoms of high grade fever, cough, loss of appetite, body aches & fatigue. He tested positive for Covid-19 and was started on antiretroviral and antimalarial therapy as per the Dubai Health Authority (DHA) Protocol. He received the current medical treatment for four days without any improvement in his condition. His treatment was tailored by adding N₂N Parallel Therapy for 72 hours followed by continuity of care.

Results: Tailored treatment through the use of acute detox, ingestion of anti-oxidants, Intermittent Fasting, using micronutrients, oxygen supplement and intake of steroid during the 2nd phase of treatment. The results were promising which helped avert an ICU admission. Improvement in health was also seen in the form of better lab results and exercise tolerance while hospitalization. This therapy if applied will reduce ICU admissions, duration of hospital-stay and mortality rate.

Conclusion: N₂N Parallel Therapy is superior to the current medical treatment in terms of early

discharge of adult hospitalized COVID-19 patients with evidence of lower respiratory tract infection. Overall, to reduce morbidity & mortality.

What is known about the topic?

Global perspective on COVID-19 is increasing rapidly, with previous research suggesting numerous underlying factors.

What does this study add?

This case study will emphasize the role of N2N parallel therapy with the support of primary research (case study) and secondary research (literature review). These factors have not been previously synthesized in the international literature. This narrative clearly reviews and articulates the underlying problems as well as focuses on the parallel therapy for clinical implementation. This is a proposed parallel therapy that can reduce the number of days of hospitalization, thereby decreasing the overload of patients in the healthcare facilities, have better health outcome for the patient after he survives the virus by helping him recover, and most importantly, it can promise to reduce mortality rate once clinical data for it is made more evident through multiple clinical studies carried out at healthcare facilities worldwide (large clinical trials).

What are the implications for practitioners (Both Clinician and researcher)?

This study outlines the need for further research and clinical trials using parallel treatment for COVID-19 to enable the development of appropriate strategies to manage in the future for better clinical outcome.

-Reduced workload

-Reduced bed occupancy

-Hope for better outcome for their patients in their wards

-May result in further evidence and need for further research to know about human immunity in terms of response to viruses

-Prevents focus of other important illnesses to be shifted to COVID-19, helping better global health outcomes

1. Introduction

1.1 Overview

Coronavirus disease 2019 (COVID-19) is a respiratory tract infection caused by a newly emergent coronavirus that was first recognized in Wuhan, China, in December 2019. Genetic sequencing of the virus suggests that it is a beta-coronavirus closely linked to the SARS virus (26). While most people with COVID-19 develop only mild or uncomplicated illness, approximately 14% develop severe disease that requires hospitalization and oxygen support, and 5% require admission to an intensive care unit (26). As

of November 17, 2020, there have been more than 50 million reported cases and 1.3 million deaths worldwide. This novel Beta-coronavirus is similar to severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East Respiratory Syndrome coronavirus (MERS-CoV) (2,4).

1.2 Objective

The purpose of this case study is to evaluate the role of N2N parallel treatment of Nature Therapy in COVID-19 and determine the effective outcome of the treatment.

2. Methodology-Secondary Research

Literature Review

The following Database was searched including MEDLINE, Literature (CINAHL), Cochrane library, Google Scholar and PubMed. Search strategy was perused with key terms such as “COVID-19 clinical outcome and management”, “use of parallel therapy for COVID-19 treatment”, “detox role in COVID-19 treatment”, “Drug therapy for COVID-19” and “scope of alternative treatment in COVID-19”. Additional articles were found from the reference list of these studies.

E.g., of PubMed Search Results (“COVID-19” [MeSH Terms] or “Pandemic” [All Fields] or “Drug Therapy” [All Fields]) and services [All Fields] and (“Alternative Therapy” [MeSH Terms] or (“COVID-19 Management” [All Fields] and “health” [All Fields]) or “Clinical outcome” [All Fields]). Inclusion criteria consisted of full text articles, studies conducted on COVID-19 treatment and pandemic relation, articles published in English language from the time period of 2019-2020. Peer reviewed articles were preferred.

Search was broadened to other healthcare settings due to lack of evidence found on parallel or alternative treatment for COVID-19 and pandemic. The articles were then reviewed by title and abstract. Irrelevant articles were excluded. The method sections of the articles were reviewed and study design literature review were preferred.

The initial search resulted in 308 hits. 221 were excluded due to unobtainable full text articles and some were irrelevant based on title and abstract. Some were repeated articles. 87 were then selected for further review. Upon inspection and thorough reading of the papers, 70 more excluded. Finally, only 10 articles remained which matched the search strategy and inclusion criteria.

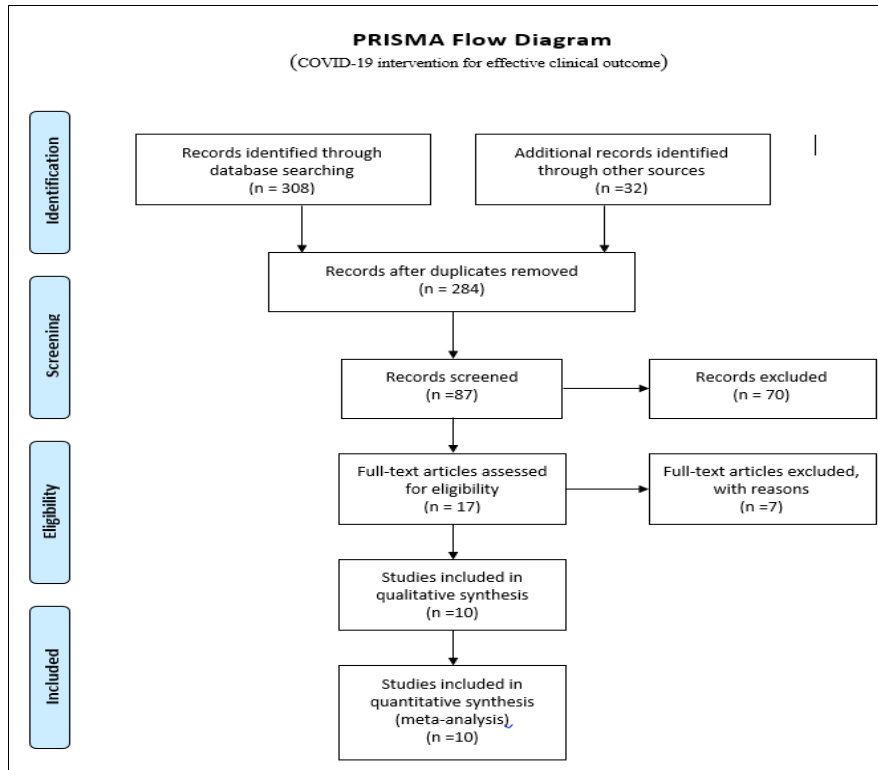


Figure 1. Prisma Flow Diagram Used for Article's Selection to Conduct Literature Review

3. Case

This section provides the details of the case in the following order:

A 57-year old emergency physician, developed symptoms of high grade fever, mild cough, loss of appetite for one day. His SARS-CoV-2 PCR test results came positive. His chest X-ray showed a small opacity on the lower lobe of Rt. lung. After discussion with the hospital's Infectious Team, he was started on antiviral and antimalarial medications as per the DHA (Dubai Health Authority) protocol. He continued to take current medical treatment for 2 days but his symptoms worsened and he started to have breathing difficulty. On the 3rd day of his treatment while he was isolated at home his respiratory rate was 35-40 breaths per minute with tachycardia and spikes of fever. He had general fatigue and was feeling very unwell. At this time, it was decided that he be admitted in the Mediclinic City Hospital. His baseline labs including inflammatory markers were done as well as his chest X Ray and HRCT scan were carried out. He continued on the same treatment although he was asked to add Azithromycin by the Infectious Diseases Team. His QT interval was normal on ECG, but the cardiologist of his working hospital (Rashid hospital) advised that it should not be added. He was given the same antiviral plus chloroquine treatment for the next two days in addition with oxygen by nasal cannula at 4-liter per minutes but there was no improvement in his health clinically.

On the night of his second day of admission, his condition worsened further to the point that his treating doctors decided to shift him to the ICU as they thought he may need ventilator support. The patient requested to be provided with CPAP to support his airways intermittently but was refused as it was not in accordance with the DHA protocol. As the patient was fearful due to the high rate of mortality of COVID-19's ICU patients, he refused to be shifted to ICU and thought of adding a parallel therapy, later to be termed the N2N therapy. While tailoring his treatment by adding N2N Parallel Therapy to it for the next 72 hours and repeating lab on the following days, his inflammatory markers reduced to less than 50% their value compared to the marker levels before the parallel therapy began. Furthermore, his NLR ratio dropped from 14.14 to less than 2 and clinically his condition had improved. Following this 72-hour time period, he started Max VO₂ and did cardio along with chest expansion exercises. His health was improving constantly and he was able to challenge his body by increasing his cardio and sets of chest expansion exercises. On the last two days before his hospital discharge, he did Reverse VO₂ and his body compliance was excellent and a final set of labs and a chest X-ray while in hospital were conducted. Then he went into quarantine for 14 days at a private accommodation on the sea side where he continued his cardio and chest exercises. His second HRCT was done in 35 days and his initial HRCT results were mostly reverted and he resumed his duty in the hospital as a doctor.

Physical examination:

Grossly within normal limits.

Chest: No added sounds

Heart sounds: S1+S2

VITAL SIGNS:

TEMPERATURE

Dates:	5 Apr	6 Apr	7 Apr	8 Apr	9 Apr
Temp(°C)	38.2	38	37.8	37.4	36.8

OXYGEN SATURATION

Dates:	5 Apr	6 Apr	7 Apr	8 Apr	9 Apr	10 Apr	11 Apr
O ₂ by nasal cannula	At 4–6 L/min	At 4–6 L/min	At 4–6 L/min	At 4L/min	At 3L/min	Intermittent at 3L/min	Room air
	94%	94% and	95%	96%	96%	98%	98%

dropping
further

SEQUENCE OF EVENTS:

- | | |
|-------|---|
| Day 1 | High grade fever, mild cough, body ache, fatigue, loss of appetite on April 1st, 2020. Corona RNA PCR done on April 2nd, 2020. |
| Day 2 | Reverse Transcription Polymerase Chain Reaction (rTPCR) positive for COVID-19 with high titre.
Symptoms as Day-1 continue.
Chest X-ray--small opacity at base of Right lung
Self- isolate at home.
Medical treatment-Antiretroviral(Lopinavir + Ritonavir) +Chloroquine started. + Paracetamol PRN |
| Day 3 | No improvement. Mild breathlessness and increased cough as well as symptoms as the previous day.
Continue medical treatment. |
| Day 4 | Symptoms worsen. Started breathlessness at rest & on walking a few steps.
RR: 35-40 HR: 100 and above. Spikes of fever.
Admitted in hospital
Lab and HRCT done:
Lab shows markedly increased neutrophil / lymphocyte ratio (NLR) and other inflammatory markers.
X Ray: no gross focal lesion
HRCT Chest: There was bilateral extensive peripheral as well as sub segmental consolidation involving all lung lobes bilaterally especially the lower lung lobes.
Started oxygen by nasal cannula at 4-6 liters per minute. Medical treatment continued as previously. |
| Day 5 | Continued oxygen by nasal cannula plus continuation of current medicines. No improvement of symptoms. Further deterioration in clinical condition with breathlessness, fluctuation in heart rate. Unable to sleep. Candidate for ICU. |
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Day 6-8	<p>Continuation of current medicine. O2 by nasal cannula.</p> <p>Started N2N Parallel Therapy that includes: Acute Detox using Evian water (calculated by Evian formula). Antioxidant using Vitamin. C (Used oranges. each orange average equal to 100 MG Vitamin C. It's 2.4 gm Vitamin C on day-1, 2 gm Vitamin C on day-2 and 1.8 gm Vitamin C used on Day-3); Micronutrients as Zinc, Mg+ and Vitamin added.</p>
Day 9	<p>Labs and X-rays done, Inflammatory markers reduced <50%.</p> <p>O2 by nasal cannula intermittent. Continue current medical treatment.</p> <p>Also continuity of care for N2N Parallel Therapy.</p> <p>Chest X ray: inhomogeneous opacities are seen in the left mid zone as well as both lower zones suggestive of pneumonitis</p>
Day 10	<p>Started controlled aerobic exercises using Max VO2, doing cardio and core body exercises.</p> <p>Chest expansion by peak-flow.</p> <p>Improvement in general condition</p> <p>Started steroid as of phase -2: Tab. prednisolone.</p>
Day 11-15	<p>Cycles of aerobic exercises using MAX VO2 continued. Chest expansion by peak-flow.</p> <p>Marked improvement in body resilience.</p>
Day 16-17	<p>Cycles of exercises using Reverse VO2.</p> <p>Marked improvement in cardio.</p>
Day 18	<p>Repeated lab and chest x ray: no new changes</p> <p>Discharged from Hospital.</p>
Day 35	<p>Repeated Lab and HRCT chest.</p> <p>Lab is normal.</p> <p>HRCT Chest: Significant improvement of the previously bilateral pneumonitis. Only subtle residual changes.</p>

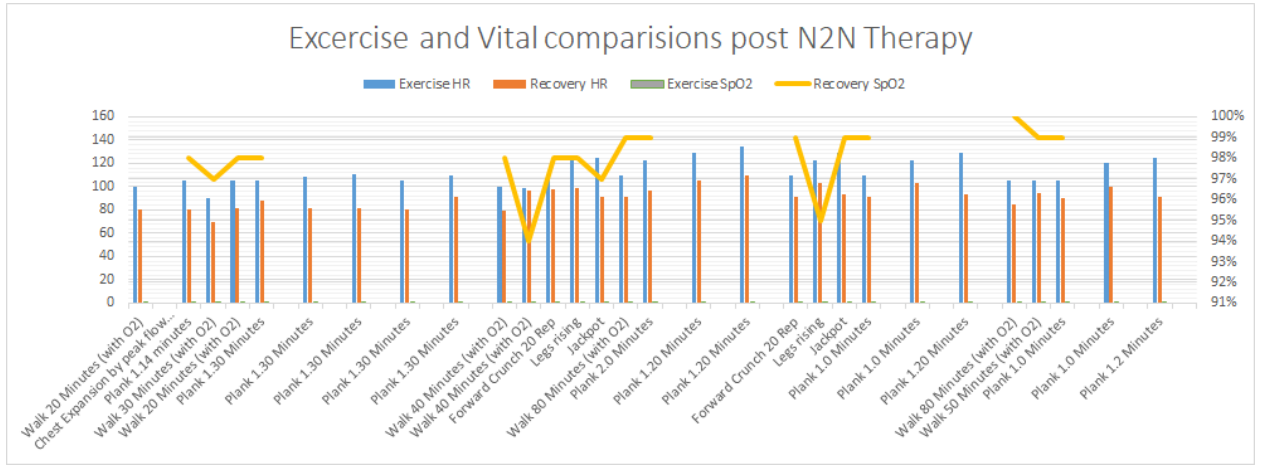
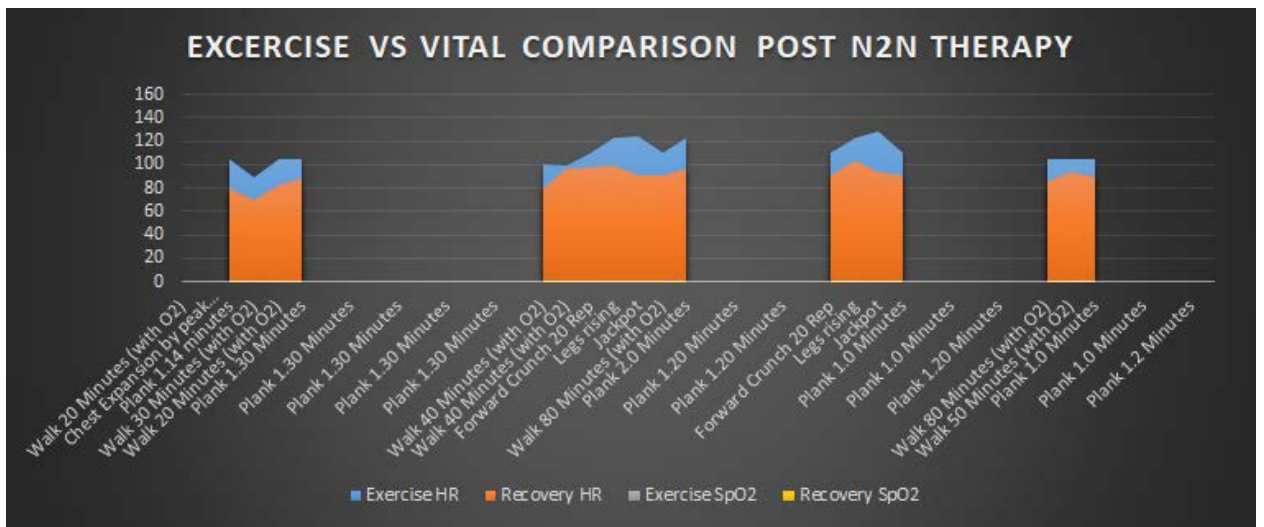


Figure 2(a) Exercise and Vital Signs Comparison



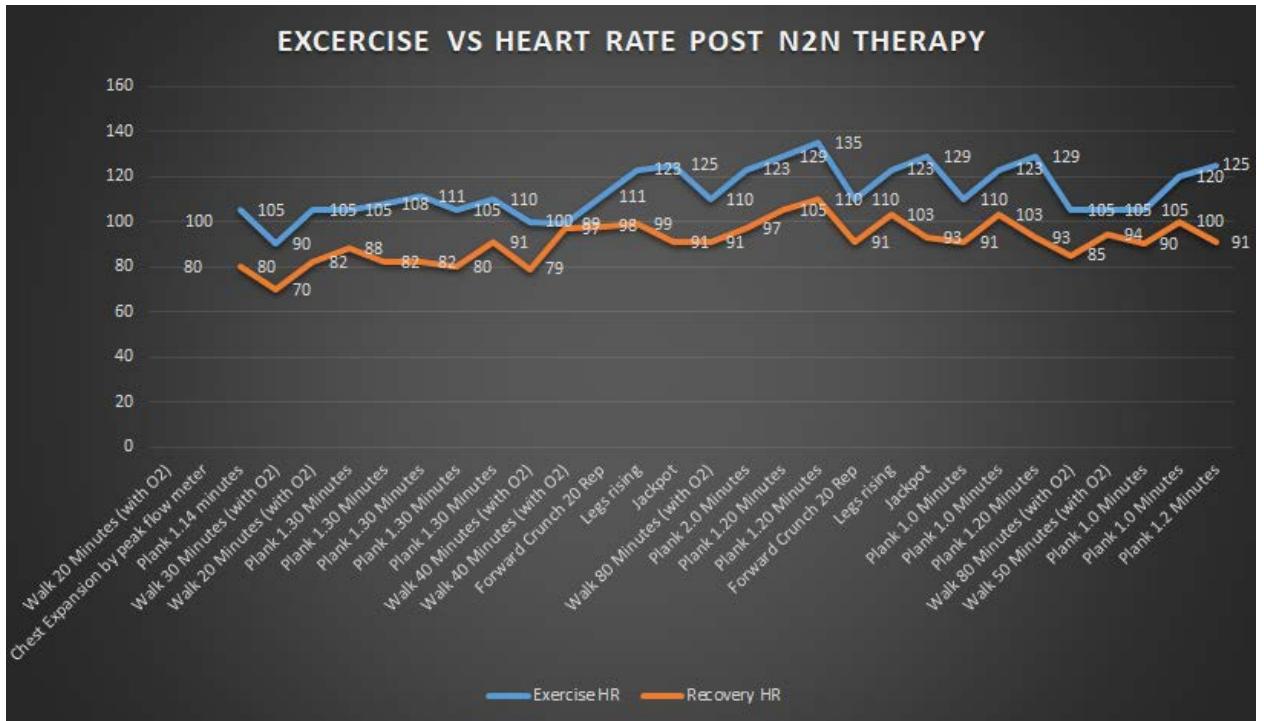


Figure 2(b) Exercise and Vital Signs Comparison

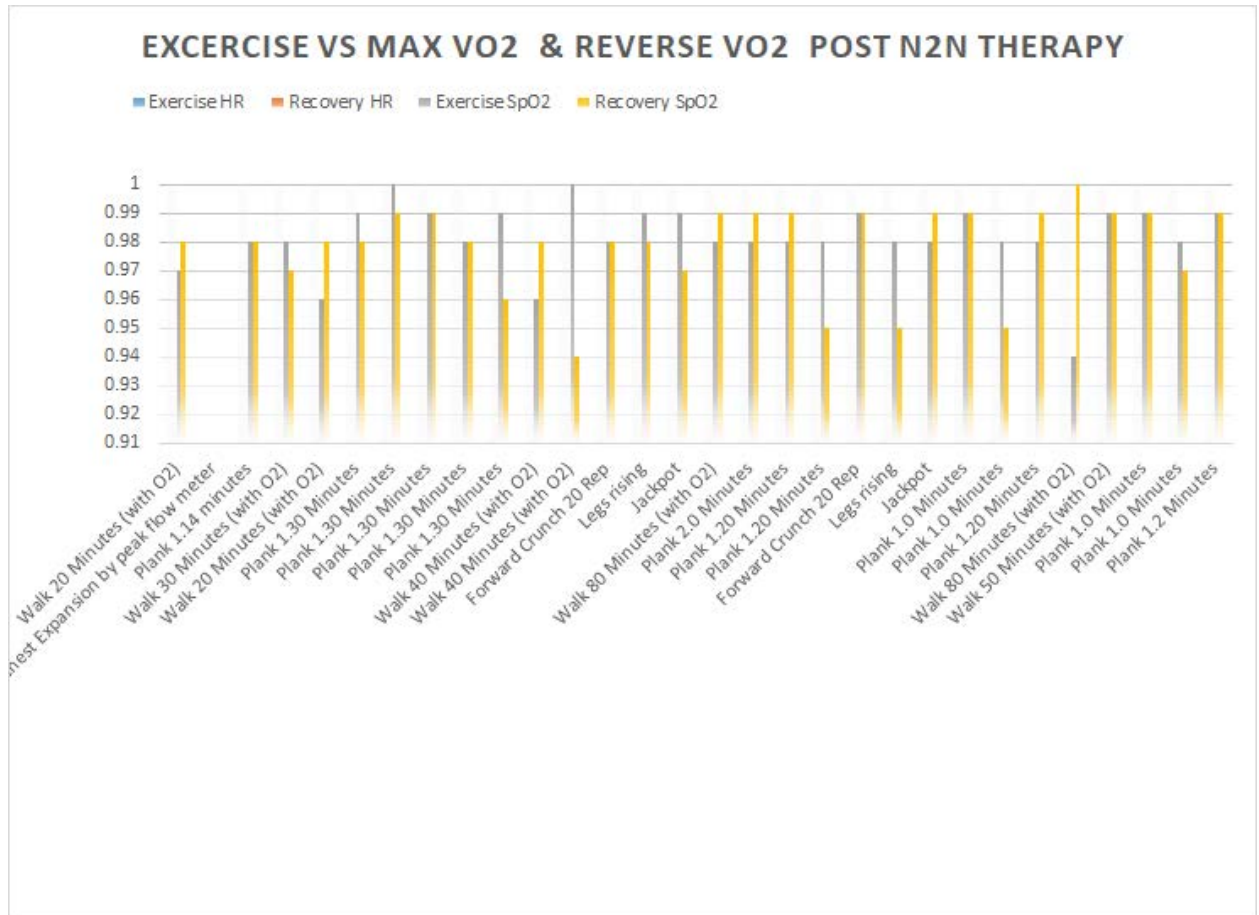


Figure 3. Exercise Using Max VO2 & Reverse VO2 Therapy

Lab Results:

FULL BLOOD COUNT

Dates:	5 Apr	10 Apr	14 Apr	20 Apr
WBC (K/ul)	11.2	7.2	9.4	8.1
Neutrophils (K/ul)	9.9	4.1	7.50	4.2
Lymphocytes (K/ul)	0.7	1.7	1.20	3.0
RBC (M/ul)	5.06	4.42	4.22	4.30
Hemoglobin (g/dl)	14.8	13.1	12.6	12.9
Hematocrit/PVC%	44.3	38.3	37.3	38.2

Platelets (K/ul)	190.0	391.0	519.0	326.0
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INFLAMMATORY MARKERS

Dates:	5 Apr	10 Apr	14 Apr	20 Apr
Procalcitonin (ng/ml)	0.28	0.08	0.04	0.04
CRP(mg/L)	222.11	89.69	13.49	2.91
Serum Ferritin (ng/ml)	2081.0	783.5	514.8	593.4
LDH(U/L)	482	272	218	221
D-dimer (ug/ml)	0.83	0.37	0.27	0.85
CPK (IU/L)	1163	199	140	117
NLR	14.14	2.41		1.4

LIVER FUNCTION TEST

Dates:	5 Apr	10 Apr	14 Apr	20 Apr
Total Bilirubin (umol/L)	27.4	16.5	12.30	15.50
Direct Bilirubin (umol/L)	14.5	8.5	5.20	5.30
ALP(U/L)	187	121	106	105
ALT(IU/L)	81	48	43	104
AST (IU/L)	83	26	16	25
Protein total (g/L)	79	70	68	63
Albumin (g/L)	35	28		32

COAGULATION

Dates:	5 Apr	10 Apr	20 Apr
PT (seconds)	14.4	13.9	12.9
APTT (seconds)	33.2		
INR	1.1	1.0	0.9

RENAL FUNCTION TEST

Dates:	5 Apr	10 Apr	14 Apr	20 Apr
Urea (mmol/L)	2.8	3.5		68
Creatinine (mmol/L)	70.8	71.5	67.9	69.10
eGFR (ml/min/1.73m ²)	98	98	100	99

ELECTROLYTES + RANDOM GLUCOSE

Dates:	5 Apr	10 Apr	14 Apr	20 Apr
Sodium (mmol/L)	132	138	134	131
Potassium (mmol/L)	3.4	4.4	4.7	4.2
Chloride (mmol/L)	95	103	-	-
Magnesium (mmol/L)	-	-	-	0.93
Bicarbonate (mmol/L)	24	27	-	-

CARDIAC MARKER

Dates:	5 Apr	10 Apr	14 Apr	20 Apr
Troponin I(ng/ml)	0.009	0.04	0.04	0.007

G6PD (ug/Hb)

5 Apr	10 Apr
15.1	14.3

SARS-coV-2 testing

1 Apr	5 Apr	7 Apr	13 Apr	15 Apr	17 Apr
detected	detected	detected	Not detected	Not detected	Not detected

IMAGING

Day-2: X Ray (Figure 4) finding: Small opacity at base of Right Lung:

Day 4: X Ray: No gross active focal lung lesion seen

Day-4: HRCT Chest (Figure 5a & 5b): There was bilateral extensive peripheral as well as sub segmental consolidation involving all lung lobes bilaterally especially the lower lung lobes

Day 9: Chest X Ray (Figure 6): Inhomogeneous opacities are seen in the left mid zone as well as both lower zones suggestive of pneumonitis

Day-35: HRCT Chest (Figure 7a & 7b): Significant improvement of the previously bilateral pneumonitis. Only subtle residual changes noted.

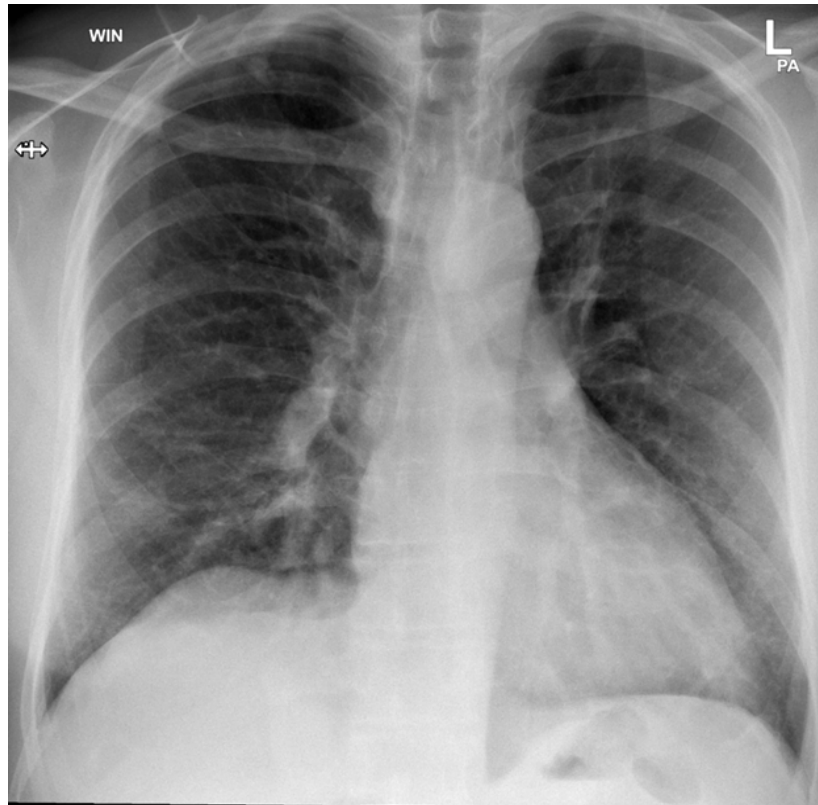


Figure 4. Chest X Ray Small Opacity at Base of Right Lung



Figure 5(a). HRCT (chest) Bilateral Extensive Peripheral as well as Sub Segmental Consolidation Involving both Lungs Showing Classical Ground Glass Appearances



Figure 5(b). HRCT (chest) Bilateral Extensive Peripheral as well as Sub Segmental Consolidation Involving both Lungs Showing Classical Ground Glass Appearances



Figure 6. Chest X Ray Inhomogeneous Opacities Are Seen in the Left mid Zone as well as both Lower Zones

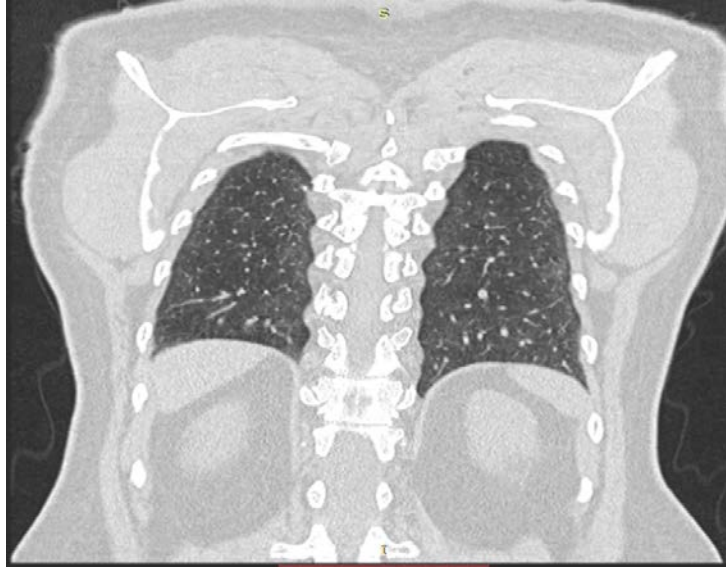


Figure 7(a). HRCT (Chest) Significant Improvement of the previously Bilateral Pneumonitis. Only Subtle Residual Changes Noted

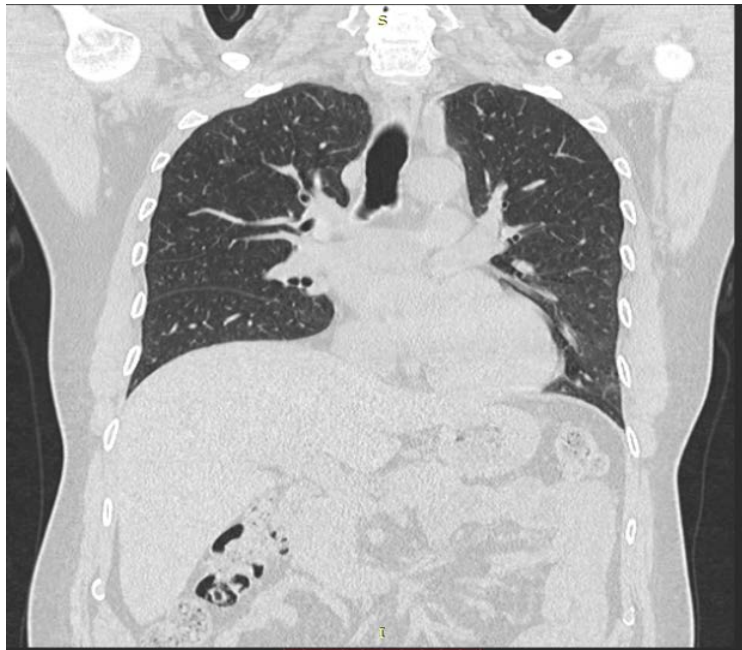


Figure 7(b). HRCT (Chest) Significant Improvement of the previously Bilateral Pneumonitis. Only Subtle Residual Changes Noted

STEROID DOSE

Dates:	10	11	12	13	14	15	16	17	18	19	20	21
	Apr	Apr	Apr	Apr	Apr	Apr	Apr	Apr	Apr	Apr	Apr	Apr
Prednisolone	60mg	60mg	60mg	60mg	60mg	60m	50m	40m	30m	20mg	10m	0m
At 1.2mg/kg/day-April 10-14,	morni	morni	mornin	morni	morni	g	g	g	g		g	g
then tapering.	ng	ng	g	ng	ng							
	40mg	40mg	40mg	40mg	40 mg							
	eveni	evenin	evenin	evenin	evenin							
	ng	g	g	g	g							
Fasting blood glucose						140	84	78				
mg/dl												

Treatment plan:

SARS-CoV-2 outbreak is a global dramatic pandemic that is immeasurably impacting our community. There are measures to be taken by which to improve the condition of patients to accelerate recovery and to reduce the risk of morbidity and mortality.

A) Medications:

- 1) Kaletra tablet (Lopinavir 250mg + Ritonavir 50mg): two tablets BD for 2 weeks
- 2) Hydroxychloroquine (200mg) BD for 5 days
- 3) Paracetamol tablet (1 gm) PRN

N2N Parallel Therapy for becoming COVID 19-free:

My specially devised **Near to Nature (N2N)**.

Holistic Medecine provides a Complementary and Alternative medical platform together with an Integrative approach incorporating timely prescribed Conventional Medicine to achieve complete cure.

Highlights of the N2N therapy:

Management through science: N2N (Near to Nature) parallel therapy.

Stage 1: (infectious stage, first 72 hours): At this stage the immune system is responsible for eliminating virus, preventing healthy cells invasion by virus and the parallel therapy is based on science to improve immune response which is of importance.

Stage 2: (inflammatory stage that starts after 72 hours). Cascade of inflammation happens especially in the lungs though in other organs too due to release of pro-inflammatory cytokines, interleukins(IL6,18, 1B as well as other immune cells.

Personalized Specialized Corona Maneuver 72

- Acute Detox Therapy (Evian formula).
- Antioxidant mega doses.
- Fasting 10-12 hours as tolerable.
- Oxygen 2–3L/min by nasal cannula; improves outcome in patients with room air Sat $\geq 94\%$.
- NIV: NIV (non-invasive ventilation and strictly no contaminated vapor spread) or HFNC (High Flow Oxygen by Nasal Cannula) intermittent first 3 days.
- Plasma transfusion of patients who have recovered COVID-19, for moderate and severe Corona cases during the 1st 3 days of their illness.
- Micronutrients for performance enhancement.
- Anti-inflammatory after 72 hours if criteria are fulfilled as in Phase 2.
- Max VO₂ followed by Reverse VO₂—after 72 hours as tolerable.
- Mental well-being.
- Therapy analysis by intermittent prone position of the body & by doing exercises.

It was a multi-pronged approach that I had carefully put together to challenge my body to slay the COVID-19 beast.

1) Acute Detox therapy: The main focus of this is to clean the body, keep cells healthy and get rid of toxins being built up in the respiratory tracts and other organs of the body owing to the replication of the virus that results in apoptosis of the cells and inflammatory response of the body.

Evian formula = 2.5ml/kg/hour for 24 hours (using Evian water to clean the body)

For example, a person of 80kg weight needs to consume 200ml per hour for 24 hours

I drank 6 L of Evian water daily for 4 days that I later reduced in the following days.

Evian water is a natural source of mineral water, rich in mineral contents and neutrally balanced with a PH value of 7.2 for the body.

2) Mega doses of antioxidants: Antioxidants are important to protect cells against damage caused by SARS-CoV-2 toxins and free radicals and help in cell regeneration and build up natural immunity. I took Vitamin C in the natural form of oranges each day (one medium sized orange is equal to 100 mg of Vitamin C). I started with 2.4 gm of vitamin C on Day -1 followed by 2 gm of vitamin C on day-2 and then 1.8 gm of vitamin C on day-3 & 4.

3) Low-flow Oxygen with nasal cannula (3-6L/min): There is a general perception that oxygen supplementation results in an improvement in outcome of patients at room air Sat $\leq 94\%$. I used to take low flow oxygen with the nasal cannula at 4-6 L/min during the first 72 hours of starting N2N therapy. During the next 2 days at 3 L/min intermittently.

Max VO₂: I started this while introducing exercise in the healing process during phase 2 on Day5. I carried out cardio exercises, core body exercises, and mild weight-bearing exercises such as planks with

high flow oxygen in small intervals. Measurements were taken for heart rate and oxygen saturation during exercise and recovery.

Max VO₂ is oxygen by nasal cannula, an oxygen supply system capable of delivering up to 100% humidified oxygen at a flow rate of up to 10-litre per minute used during exercise intervals and being off oxygen during recovery periods.

Reverse VO₂ Therapy: An oxygen supply system capable of delivering up to 100% humidified oxygen at a flow rate of up to 10-litre per minute by nasal cannula. This was used during the recovery period only while doing cardio and core body exercises at room air meanwhile checking heart rate and oxygen saturation by finger pulse oximeter at interval of exercise and recovery.

4) Intermittent Fasting

Fasting for over 12 to 14 hours has proven beneficial in detoxification as it promotes cell regeneration. I used to fast every night from 10 pm until 9 am but the only exception was drinking Evian water. I did it as part of N2N therapy for a few days.

5) Micronutrients:

To have a balanced diet, I used multivitamins, Vitamin D, minerals and plant-based/seed-origin Omega 3, 6 and 9 fatty acids. I was using multivitamin (the brand name is Centrum) that included Vitamin B complex and zinc, magnesium and other minerals. I took a tablet Vitamin D 50,000 IU once a week. In a 2006 study, the prophylactic and therapeutic effectiveness of Zinc-Sulphate was noted on children with common cold. (7)

6) Anti-inflammatory medications:

Phase 2 is an inflammatory phase that starts on Day 4 of starting N2N parallel therapy.

I started taking steroids on day 5 (delayed one day as 4th day was spent in discussion with ICU consultants in Rashid hospital and Dubai hospital). I started Tablet. Prednisolone 100mg daily in divided doses of 60mg morning and 40 mg evening for 4 days. I tapered the initial dosage on day 5 after starting steroids to 60mg in the morning only. It was further tapered by reducing 10mg daily until the course was completed.

Our treatment protocol was aimed to pre-empt the inflammatory changes that is categorized as the inflammatory phase of the coronavirus which follows phase 1. It helps reduce the anatomical damage to lungs as well as to reduce the inflammatory cascade reaction at alveolar capillary level and so to reduce the micro emboli formation in capillaries.

7) NPPV

(Noninvasive positive pressure ventilation) On the second night of hospitalization I deteriorated and requested for non-invasive ventilation but was not facilitated as it was not in hospital protocol for COVID-19 patients. I was advised to move to ICU, a bed was arranged but I was not comfortable with this as I had fear due to high mortality in ICU patients who are put on ventilators. Data shows reduction in

the need for intubation in patients who received HFNC or NPPV [20].

Expected outcome of the treatment plan: there was improvement in patients and symptoms, lab results, oxygen saturation and lung capacity was improved. The patient was able to start his cardio, chest expansion and core body exercises improving his physical fitness to return to his pre-COVID fitness.

Actual outcome: The acuity of clinical condition was reduced from high to low. Patient stayed in the hospital for infection control only otherwise could have discharged with continuity of care at home and follow-up in the clinic. Further studies are needed.

4. Discussion

4.1 Secondary Research Discussion

Several studies have suggested number of medicines as interventions, potentially effective for the treatment of COVID-19 (Literature Review Table 3). Most of these suggestions are based on records of their effects on SARS and MERS. In addition to these medications for specific treatment as well suggested supportive treatment for COVID-19 need to consider. The published clinical treatment experience, outside the few clinical trials mentioned, mostly consists of descriptive reports and case series from China and other countries affected early in this pandemic. Therefore, outcomes including case-fatality rates must be interpreted with caution given the presence of confounding and selection bias as well as the shifting demographics, testing, and treatment approaches. However, no clinical study has demonstrated the clear effects of either specific treatment or supportive treatment on COVID-19 and further studies are indeed required.

Table 1. Literature Review for Selected Studies on Treatment and Clinical Outcomes COVID-19

Source	Study Setting & Country	Sample Size (No. of Patient)	Age, median (IQR), y	ICU status/complications, No. (%)	Treatments, No. (%)		Discharged alive, No. (%)	Deaths, No. (%)
					Supportive Care	Specific Treatment		
Huang et al., 2020(10)	Wuhan Jinyintan Hospital, China (12/16/19-1/2/20)	41 Hospitalized	49 (41-58)	ICU: 13 (32); ARDS: 12 (29); MI: 5 (12); AKI: 3 (7); shock: 3 (7); secondary	NIV/HFNC: 10 (24); MV: 2 (5); ECMO: 2 (5); KRT: 3 (7)	Antivirals (oseltamivir): 38 (99); Anti-bacterials: 41 (100); corticosteroids: 9 (22)	28 (68)	6 (15)

				infection: 4				
				(10)				
Patel et al., 2020 (21)	Temple University Hospital in Philadelphia, Pennsylvania, (10/3/ 2020- 24/04/ 2020	445hospitalized only 104 met inclusion criteria	average age was 60.6	ICU: 104 DM:35(34) HTN: 46 (45) CKD:15 (14) CVD:23 (22)	NIV/HFNC:104 (100) Intubation 37 (36)	Remdesivir 9(9) Sarilumab 40(39) Anakinra 12 (11.7) Pulse Steroids 66 (64.7) Hydroxychloroquine 22 (21) Azithromycin 59 (57) Antibiotics 76 (73)	48 (47%)	15 (14.4%)
Chen et al., 2020 (3)	Wuhan Jinyintan Hospital, China (1/1/20-1/20/20)	99 Hospitalized	Mean (SD), 55.5 (13.1)	ICU: 23 (23); ARDS: 17 (17); AKI: 3 (3); shock: 4 (4); VAP: 1 (1)	NIV: 13 (13); MV: 4 (4); ECMO: 3 (3); KRT: 9 (9)	Antivirals (oseltamivir, ganciclovir, or lopinavir/ritonavir): 75 (76); antibacterial: 70 (71); antifungals: 15 (15); corticosteroids: 19 (19); IVIG: 27 (27)	31 (31)	11(11)

<i>Wang et al.</i> , 2020(27)	Zhongnan Hospital, Wuhan, China (1/1/20-1/28/20)	138 Hospitalized	56 (42-68)	ICU: 36 (26); ARDS: 27 (20); MI: 10 (7.2); arrhythmia: 23 (17); AKI: 5 (3.6); shock: 12 (8.7)	NIV: 15 (10.9); MV: 17 (12); ECMO: 4 (2.9); KRT: 2 (1.5)	Antivirals (oseltamivir): 124 (90); antibacterial: moxifloxacin: 89 (64), ceftriaxone: 34 (23), azithromycin: 25 (18); corticosteroids: 62 (45)	47 (34)	6 (4.3)
<i>Yang et al.</i> , 2020 (28)	Wuhan Jinyintan Hospital, China (12/24/19-1/26/20)	52 (All ICU)	Mean (SD), 59.7 (13.3)	ICU: 52 (100); ARDS: 35 (67); MI: 12 (23); AKI: 15 (29); bacterial infection: 8 (15)	NIV: 29 (56); MV: 22 (42); ECMO: 6 (12); KRT: 9 (17)	Antivirals: 23 (44); antibacterial: 49 (94); corticosteroids: 30 (58); IVIG: 28 (54)	NR	32 (62)
<i>Young et al.</i> , 2020 (2)	Singapore(1/23/20-2/3/20)	18 Hospitalized	47 (31-73)	ICU: 2 (11); ARDS: 0 (0); secondary bacterial infection: (0)	Supplemental oxygen: 6 (33); MV: 1(6)	Antivirals (lopinavir/ritonavir): 5 (42); other antivirals or antibacterial: NR	8 (75)	0

<i>Kujawski et al., 2020 (11)</i>	US-confirmed Hospitals cases (1/20/20-2/5/20)	12 (Only 7 hospitalized)	53 (21-68)	ICU: 1 (8); culture-posit ive secondary bacterial infection: 0 (0)	Supplemental oxygen: 4 (33)	Antivirals (remdesivir): 3 (25); antibacterials: 5 (42); corticosteroids: 2 (17)	100 (100)	0
<i>Guan et al., 2020 (8)</i>	National Chinese cases (12/19/19-1/29/20)	1096 Hospitalized	47 (35-58)	ICU: 55 (5); ARDS: 37 (3.4); AKI: 6 (0.5); shock: 12 (1.1)	Oxygen: 454 (41); NIV: 56 (5); MV: 25 (2); ECMO: 5 (0.5); KRT: 9 (0.8)	Antivirals (oseltamivir): 393 (36); antibacterials: 637 (58); antifungals: 31 (2.8); corticosteroids: 204 (19); IVIG: 144 (13)	55 (5)	15 (1.4)

Used Abbreviations in above table: AKI, acute kidney injury; ARDS, acute respiratory distress syndrome; COVID-19, coronavirus disease 2019; ECMO, extracorporeal membrane oxygenation; HFNC, high-flow nasal cannula; ICU, intensive care unit; IQR, interquartile range; IVIG, intravenous immunoglobulins; MI, myocardial infarction; MV, invasive mechanical ventilation; KRT, kidney replacement therapy; NIV, noninvasive ventilation; NR, not reported; VAP, ventilator-associated pneumonia.

4.2 Case Study Discussion

Covid-19 continues to be a pandemic costing lives daily on the global level as it also remains a constant threat to Healthcare professionals' lives and those dealing with chronic illnesses and also the aged who have weak immunity there is a constant shift in treatment protocols on a weekly basis in countries around the world. This study aimed to make a difference by showcasing how a combination of other treatments can make a whole lot of difference in the absence of an approved therapy for COVID-19. The study was conducted as a personal experience of an emergency physician who was hospitalized after being diagnosed with covid-19. It offers a non-invasive therapy with limited to no side effects that was taken by this doctor through his medical experience which then resulted in immediate surprising recovery from

symptoms. The changes in labs and imaging at a time when his health was worsening even though he was on treatment as per hospital protocols. The therapy has proven its effectiveness in a short duration of time bringing into attention the power of the simple yet effective important factors that need to be taken into account as these may be the only factors that make a difference why the vaccine is waited upon for the treatment. This study gives a chance to doctors to give their patients more than what is being offered at the hospital. If replicated in large trials it may significantly reduce the number of deaths. This therapy can be practiced at home for mild cases. Moderate cases can be treated in non-hospital settings but provision of oxygen, portable monitoring facility and mobile x-ray and Lab are supportive facilities. It can help to reduce hospital bed occupancy so general community care isn't compromised. Hospital admissions could be only for severe category patients. Parallel therapy (N2N) is based on science and is a supportive treatment for COVID 19 with anticipated outcome of reduced number of days of stay in hospital, reduced further complication, and reduced mortality rate. For that purpose, we are recommending a large study on this proposed N2 parallel therapy in accordance with national level guidelines. It discusses the state of the art based on science clearly de-marketing phase 1 and phase 2 as well as usage of various treatments such as acute detox, anti-oxidants, intermittent fasting, micro-nutrient and anti-inflammatory like usage of steroid and its timings to help anti-inflammatory effect.

Medications like Kaletra and Hydroxychloroquine that's considered earlier as the mainstay of treatment for COVID-19 patients as per Dubai Health Authority protocols have been found to have more side effects than benefits according to research now. Currently the above medications are not in practice and have been obsolete from treatment protocols for COVID-19 patients. Now I realize that usage of these medications by me had just a placebo effect.

Acute detox is a milestone of cleaning the body as a result cells remain healthy, immune system works in a natural way and invasion of viruses into the cells is protected. Ingesting large amounts of natural (mountain spring water) like Evian water for natural detoxification is important. The Evian Formula is helpful to calculate the water needed for individual patients. The reason for suggesting Evian water is because according to hydrogeologists, the mountains overlooking Evian water spring, France are in an exceptional geological setting, where they block clouds allowing snow and rain to trickle down the glacial rocky that naturally filter and enrich the water with minerals in a process that takes 15 years. Natural source of mineral water, rich in mineral contents and neutrally balanced at 7.2 for the body (6). Oxidation is a process that produces free radicals which cause damage to the human body. Evian has an additional ability to slow down oxidation or aging process as recognized tests conducted using an Oxidation Reduction Potential electrode device show. Make sure an adequate urine output and precaution for cardiac patients.

Antioxidants can be divided into carotenoids, phenolic compounds and vitamins. Vitamin C is a powerful antioxidant in its role in controlling infection and promoting wound healing especially mega doses

improve immunity and flu symptoms, however precaution should be taken and mega doses should not be continued for a longer number of days as oxalate can get deposited in the kidney and may cause renal failure (25). In a small study it has shown benefit, however in the large study it has not proven to be useful.

A 2013 meta-analysis of 24 trials (10,708 participants) found no evidence that daily vitamin C supplementation prevents the common cold in the general community (risk ratio 0.97, 95% CI 0.94-1.00. (17). However, daily vitamin C supplementation may shorten the duration of the common cold in children. In meta-analysis of 14 trials (2530 cold episodes), daily vitamin C (at least 200 mg/day) by children shortened the duration of the common cold by 14 percent (95% CI 7.3-21 percent); no serious adverse effects were reported (16).

L-Glutathione is another powerful antioxidant, a co-factor in phase-1 hepatic detoxification involved in synthesis of DNA and protein, amino-acid transport, enzyme activation, and immune system functioning. (14) It can be given along with micronutrients after checking baseline micronutrients, which is well recognized for its ability to clean the body and keeps cells healthy. Glutamate is a precursor of Glutathione. Observational evidence suggests that it may reduce respiratory infection in athletes.

Micronutrients are the basic ammunition for the body's immune system to generate and fight back. Animal origin omega 3 fatty acids should be avoided as it increases LDL cholesterol and can cause weight gain. Vitamin D is a secosteroid that has a wide spectrum of immunomodulatory, anti-inflammatory and fibrotic, and antioxidant actions. It inhibits expressions of cytokines (IL), TNF and deficiency is associated with over-expression of these cytokines that propels activation of inflammatory cascade in the lungs It is recognized that SARS-CoV-2 binds to ACE 2 receptors in the respiratory tract that's the way how the virus enters host cells. Vitamin D has an immuno-modulatory effect at ACE2 receptors and helps reduce binding hence protect cells against viral invasion (20). A majority of those who succumbed to COVID 19 were above the age of 65 or have Type 2 Diabetes and it is these people who often suffer from severe Vitamin D deficiency.)

As for intermittent fasting, the Japanese cell biologist Yoshinori Ohsumi, who won the Nobel Prize for medicine in 2016, propounded the theory of Autophagy. Autophagy, meaning "cell devouring", is the process in which in the absence of external sources of food, the body in order to eat, recycles its own damaged cells, triggering cell regeneration as new cells replace the dead cells which are recycled or is metabolized. (13). It is a process of cellular housekeeping and definitely helps in clearing the backlog of toxins. Fasting eliminates toxins from our body and is a good way to detox and reboot our system. The changes in metabolism: the fasting brings changes in the metabolism and slows it down putting the body in starvation mode. It resets the immune system providing many potential benefits (22). Valter Longo and his colleagues at USC found that fasting lowers white blood cell count and triggers the immune system to start producing new white blood cells which are healthy and combat better to defend the body.) It also

stimulates the liver to get rid of toxins and combats viral infections, although more studies are needed. Phase 2 of SARS-CoV-2 (begins after 72 hours that's on day 4: counting day 4 with N₂N parallel therapy) is an inflammatory phase mediated by macrophages and release of inflammatory mediators as cytokines, cascade of inflammation in alveoli that disrupt the alveoli-capillary membrane leading to respiratory distress. A delicate balance between inflammation and anti-inflammation is essential for lungs' homeostasis. The classical radiological changes that appear in chest imaging ground glass appearances that mimic more triggered by inflammatory cascade in all cases. It is important to intervene during phase 2 before an anatomical damage of the alveoli sacs happens.

Finally, WHO (World Health Organization) has agreed with the role of anti-inflammatory to curb COVID-19. Still there is a flaw as the timing of starting anti-inflammatory during treatment has not been specified. Our understanding from the beginning, based on science is that anti-inflammatory has an important role in phase 2. I used Tab. prednisolone 100 milligram per day for four days that i then tapered and the results were promising. Interestingly in- hospital protocol steroids were not included for COVID-19 patients. I requested the medical team that it is an important treatment as part of N₂N therapy in phase 2 of the staging and received the course of steroids and arranged this medicine from Rashid Hospital and completed its course.

According to Dr. Angel Atienza in Valencia, Spain, the use of anti-inflammatory drugs started on the 6th day of the disease. Her research has never been explained why particularly the second phase of treatment starts from sixth day. We believe that phase 2 should be categorized as one that starts after 72 hours of N₂N therapy i.e. Day 4 (not the proposed Day 6 according to Dr. Angel) on the criteria of necessary findings of inflammatory markers <50% when compared to day-1 after diagnosis. This should be done after N₂N therapy of intensive detox, anti-oxidant doses, intermittent fasting, micronutrients, oxygen supplement, as it is then the right time to prescribe high doses of anti-inflammatory medications. Our treatment protocol aims to pre-empt the inflammatory changes during phase 2 to curb inflammatory cascade.

The choice of medications among different anti-inflammatory drugs are steroid or Tocilizumab (immunosuppressant) and anakinra (anti-interleukin) and methotrexate (12). Our choice of steroid was tablet prednisolone 1.2 mg/kg body weight in preferably the full dose to be given in the morning hours. In case there are gastritis-like symptoms, PPI (proton pump inhibitor) like tablet omeprazole 40mg can be given. It is noted that many physicians in their practice divide steroid doses in the morning and evening. The fact is by doing so leads to imbalance of hormones that leads to metabolic complications such as iatrogenic high blood sugar. I was taking steroids in two daily divided doses until the 5th Day of my diagnosis when my fasting glucose results became 8.1 mmol/L. Therefore, I stopped the evening dose and on the next day the fasting glucose dropped to 4.3 and the following days it remained within normal limits as I had started taking steroids in a single morning dose.

Anti-inflammatory treatment at this stage potentially reduces the inflammatory response and prevents the progression to ARDS. For many COVID-19 patients in the critical stage, this inflammation results in Acute Respiratory Distress syndrome (ARDS) and eventually they cannot even survive with ventilator support. Also clinically the patient feels far better in terms of his chest comfort/breathing/lung capacity/limited mobility/response to max VO₂ followed by reverse VO₂ therapy during his cardio and other exercises. Objectively, the patient can be off oxygen for hours without desaturation at rest and minimal to moderate exertion.

The studies have shown that patients with COVID-19 with mild illness with saturation $\geq 94\%$ at room air still can benefit with supply of oxygen with nasal cannula. The reason is though room air saturation is normal there is a local hypoxia at alveolar capillary level. By doing this therapy it reduces the inflammatory process in alveoli as well as cascade of inflammatory reactions at alveolar capillary level. In severe COVID-19 cases where breathing is labored, and blood oxygen levels are dropping, the patients are first provided non-invasive ventilation through C-PAP and Bi-PAP (18). Early reports from the Lombardy region of Italy indicated that about 50 per cent of patients on non-invasive ventilation were able to avoid the use of full mechanical ventilation.

Regular and steady exercise routine is to be introduced slowly while in hospital during phase -2. (16). The exercises can be as little as a 10-minute walk with oxygen support within the room, to be gradually increased from 10-15 to 30-45 minutes in the room both with and without oxygen support. This has to be supplemented with other weight-bearing exercises such as planks, side planks lasting 1 to 2 minutes (duration to be gradually increased) as exercises are known to have a direct impact on building the body's immunity and improving lung capacity.

As patients progress, higher amounts of oxygen are needed (19). Options at this point in COVID-19 patients are high-flow oxygen via nasal cannula (HFNC) or the initiation of noninvasive ventilation (NIV) (9). Both modalities have been used variably (15). Protection of healthcare workers is paramount and full PPE and negative pressure rooms are warranted. In retrospective cohorts, rates for HFNC use ranged from 14 to 63 percent while 11 to 56 percent were treated with NIV. While respiratory rate decreased with a relatively low exhaled tidal volume, non-invasive strategy could be working and intubation delayed. We also suggest starting with CPAP using the lowest effective pressures (e.g., 5 to 10 cm H₂O). There is a risk of exposure to healthcare workers due to increased risk of aerosolization (1). The rationale of this approach is based on direct evidence and observation in the field as well as evidence of its efficacy to reduce use of ventilators with acute respiratory distress with severe to critical COVID-19 patients. 12 out of 15 COVID-19 patients treated with NIV and pronation (median total of two cycles, three hours) experienced an improvement in the peripheral oxygen saturation (20, 5).

Categories of COVID-19 patients:

- A) COVID-19 acute respiratory syndrome – Asymptomatic through critical.

B) Stroke cases secondary to thromboembolic phenomenon related to COVID-19.

C) Life-threatening acute inflammatory condition potentially related to COVID 19.

As per statistics, about 80-85 percent of the patients who are afflicted with COVID-19 recover fully. The virus acts differently in people with different immune systems. The stronger your immune system, the higher are your chances of recovering faster from it. People who are below 60, follow a physically active lifestyle and do not have comorbidities, tend to have stronger immune systems that helps combat the virus.

i) Asymptomatic testing positive: These are usually the younger population who after being exposed to the virus, show no symptoms at all. The maximum impact they have is of feeling a mild discomfort and if they are found positive, they can easily self-quarantine at home and recover with little or no prophylactic medication. It is important these individuals self-isolate to prevent the community transmission of the virus. The only way to know how many people are asymptomatic would require a mass antibody screening, which once rolled out, will give an idea of the invasiveness from this virus. Eventually, as most virologists around the world say, when the virus spreads really wide and people develop antibodies, we might develop herd immunity (herd immunity is achieved usually through vaccination). But in the absence of vaccination as the virus spreads, it becomes less virulent in mass transmission. When a sufficiently large population is exposed to such a contagious virus, it develops antibodies resulting in the entire community being protected from a severe outbreak.

ii) Mild: These patients manifest the illness with mild influenza-like symptoms—low-grade fever (not more than 37.8 C), headache, sore throat and fatigue but they do not have symptoms of breathlessness. These patients can take Vitamin C natural treatment such as hot water, green tea, etc., along with symptomatic treatment which is available over the counter, like mild painkillers.

iii) Moderate: This marks the progression of the disease to the lower respiratory tract, affecting the lungs—its bronchioles and alveoli. Such patients have fever (higher than 37.8 C), a sore throat, nasal congestion, inflammation of the lungs, feel breathless and tend to have an increased heart rate, may suffer from diarrhea, vomiting, lack of appetite, lack of a sense of smell and taste. This category of people cannot self-isolate at home and must seek medical attention when they test positive.

iv) Severe: This usually happens to people in advanced age, 60 and above, and those with comorbidities. Such cases present with fever that spikes high, body ache, severe throat and nasal congestion and pneumonitis. They have trouble breathing and might be taking anything from 20-40 breaths per minute. (A normal adult takes in about 12-18 breaths per minute.) Such patients have to be closely monitored in hospitals and administered antivirals and be on oxygen support.

v) Critical: The critical cases are wherein the symptoms spiral out of control from the severe stage, with escalating pneumonitis that makes the patients unable to breathe independently, requiring intubation, along with a strict medical schedule. This category has been observed to have a higher mortality rate as

multiple organ failure is of a higher incidence here.

Life-threatening acute inflammatory syndrome in children potentially related to COVID-19. Recently, more than 85 children in New York manifested a lethal inflammatory syndrome that may be linked to COVID-19 infections. More than 100 cases of this illness have emerged in at least six countries. The syndrome resembled the Kawasaki disease, which is an inflammatory disease of the blood vessels in children with rashes on the chest and abdomen and high fever, swollen hands, lymph glands and swelling on the mouth and lips.

Some universal measures that can be implemented across the globe include:

National strategic coordinated response: Reduction rate of contamination by OUR action.

- i) People trust and information sharing.
- ii) Find and isolate.
- iii) Disinfection for circuit breaking.

5. Limitations

The major limitation with our study is that it has been applied to only one case, so the results cannot be generalized. Further randomized clinical trials required for large sample size to develop Nature therapy as parallel treatment for COVID-19 intervention.

6. Strengths

Overall study has shown very surprising results, as well indicates potential to explore the individual items to understand nature therapy perception for utilization of parallel treatment for effective outcome in more depth.

7. Conclusion

The COVID-19 widely recognized global emergency, thus the role of the parallel treatment and other clinical trials has changed and continues to evaluate regularly. The literature, therefore, points to the development of extended alternative management in line with government policies and supported by formal clinical protocols to treat and further prevent the complication of COVID 19. The basic steps can be adopted by "public health education initiatives" in collaboration of government and public health organizations together to adopt health as center of care by focusing physical, mental and social well-being.

We as a global community need to acknowledge that there is a need for further research in development of policies, procedures and collaboration for enhancement of nature therapy as a key role for managing not only COVID-19 though other such infectious diseases too.

Lastly, we strongly recommend the definition of health components to be considered while treating the

COVID-19 as physical health, mental health and social wellbeing.

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This case study is approved by the Medical Research & Ethical Committee, Mediclinic Hospitals Dubai, UAE.

9. Conflict of Interest

As the authors of this study we declare that we have no conflict of interest. This work for further consideration for clinical trials.

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Appendix

A. Abbreviation

BIPAP	Bilevel Positive Airway Pressure
CPAP	Continuous Positive Airway Pressure
DHA	Dubai Health Authority
N2N therapy	Near to Nature Therapy
NIV	Non-Invasive Ventilation
N2N Parallel Therapy	Near to Nature Parallel Therapy
NPPV	Noninvasive positive pressure ventilation
HFNC	High Flow oxygen by nasal cannula

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Yasin Naroo graduated from the Quaid-i-Azam Medical College Bahawalpur in Pakistan. He did his initial training in the Bahawal Victoria Hospital in Bahawalpur with Professor Tehseen Cheema, a renowned hand and orthopedic surgeon in Asia. Subsequently, he joined the teaching faculty at his alma mater and worked as a demonstrator in the Pathology & Physiology department. He then went to the UK to earn his MRCP from the Royal College of Physicians London. He returned to Pakistan and joined the Mayo Hospital Lahore that is affiliated with the King Edward Medical University, working with Professor Hafeez Khan, a renowned figure in medicine and cardiology in the state of Punjab in Pakistan.

In 2001, Dr Naroo joined the Rashid Hospital Dubai in the Emergency Medicine department and has been working there to date. In his long and distinguished career with the Rashid Hospital, Dr Naroo has undertaken many additional responsibilities including as Team Leader, Medical Team, from December 2002 until 2005. He has been a part of many hospital committees, including the Sterling Committee for Trauma Centre, to improve hospital standards. He has worked closely for the JCI accreditation and has played a key role in formulating and implementing medical disaster management protocols for the Dubai Health Authority (DHA).

Dr. Naroo has authored many scholarly works and textbooks: Heart Miles - Beyond Pheidippides; Textbook of Critical Care Including Trauma & Emergency Care; The 5-Minutes Clinical Consult; Acute Coronary Syndrome; and Ischemic Heart Disease. He has played a leading role in regional and international publications such as Circulation, Global Heart Journal, US-China Medical Science, HKJEM, International Journal of Current Research, BMMR, Heart Views Journal and the Emirates Medical Journal.

He serves on the PAROS (Pan-Asian Resuscitation Outcomes Study) executive committee to analyze data in Asian countries for OHCA (Out of Hospital Cardiac Arrest). He has been the recipient of a number of honors for his extensive research and has lectured widely on topics of emergency medicine.

A deeply committed family man, Dr Naroo has four children, two daughters and two sons, three of whom are married, with his youngest son in college. A passionate sportsman all his life, Dr Naroo has run many marathons and is an ardent believer in health and fitness. His more than three decades of experience as a physician, and all his learnings in life as an individual, were put to a severe test when he contracted COVID-19. As he fought and vanquished the unseen enemy, he gained new perspectives

that changed him forever, both as a doctor and a human being.