

The efficacy of COVID-19 treatment's guidelines that have been used in Iraq from January–April, 2020

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Abstract:

Background: COVID – 19 outbreak is growing up and it involved almost all countries and cities, and the number of cases reached a million in all the world. There is no specific antiviral for the disease, all the drugs are being used are experimental and nonspecific for SARS-CoV-2. Iraq has 961 confirmed cases with a recovery rate of 31% and a death rate of 6.3% till April 5, 2020.

Methodology: It is a cross-sectional study involving 878 confirmed cases data in Iraq till the 5th of April, 2020. The diagnosis of COVID – 19 is being done by using (real-time-PCR techniques). The recovery of the patients is confirmed by using real-time-PCR technique too (Two negative results with 24 hours apart).

Results: Iraq's hospitals and health centers started to use the official guidelines with doctors' call on the COVID – 19 patients on the first of March and the guidelines were modified later. The main drugs that have been used are hydroxychloroquine with Azithromycin or with Lopinavir/Ritonavir. The number of recovered patients from all the confirmed cases reached 279 (about 31% of the cases).

Conclusion: There are several drugs that have been used in treating of supporting COVID – 19 patients, but they are not specific so the research is still going on while the disease is spreading very fast. Hydroxychloroquine in combination with other drugs are the most effective and safer than other options with fewer effects. They are being used in Iraq with high recovery rate among the patients.

Keywords: COVID-19, Efficacy, Treatment Protocols, Real-time PCR, Hydroxychloroquine, Azithromycin, Lopinavir/Ritonavir.

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Introduction

An ongoing outbreak of pneumonia associated with a novel coronavirus, called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was reported in Wuhan, Hubei province, China in December 2019 [1].

On February 12, 2020, WHO officially named the disease caused by the novel coronavirus as Coronavirus Disease 2019 (COVID-19) [2].

On March 12, 2020, WHO declared this disease as a pandemic, it knocked the doors of 186 from 197 countries and is spreading very fast in comparison with other infections [3].

In April, the United States recorded the highest number of cases than other countries that reached 311,656 confirmed cases with the death rate of 2.71% and a recovery rate of 4.75% on 5th April.

While in Europe, Spain and Italy are competing for the first place with the number of cases: (130,759) and (124,632) respectively [4-6]. Several drugs and guidelines have been used to treat and control the disease, some of them work effectively on some patients in many countries with very high recovery rate as we can see in China

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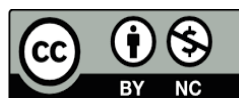
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(the disease became to disappear gradually), while others are just supportive drugs and they were not effective. The health centers and researchers are still going on to find out the effective and specific treatment for the disease caused by the outbreak.

Hydroxychloroquine was the first drug that has been approved to be used in many countries with high efficacy because the drug has antiviral activity against many viruses and was used previously on many diseases [7-9].

Lopinavir/Ritonavir is used in treating HIV/AIDS which is found to have an effect on COVID – 19 too and it has been used in many facilities [10,11].

Hydroxychloroquine and Azithromycin are being used in combination to treat the COVID – 19 and showed good results and now it is used on patients [12,13].

In Iraq, the ministry of health recorded the first case on February 24, 2020, for an Iranian young male who was studying in Iraq, Najaf city, after visiting his country for a week. The patient was quarantined and given supportive care until the Iranian consulate received him [14].

The number of cases is increasing till it reached 878 confirmed cases on the 5th of April but with the precautions that have been taken by the governorate, the situation is still under control and the death rate is decreasing with increasing the recovery rate [15,16].

On the 25th of March, the Iraqi ministry of health approved Hydroxychloroquine to be used by the medical staff and medical field workers as a prophylactics from the disease for three weeks but taking into consideration its side effects (it is taken with a dose of 400mg twice in the first day and then 400mg once a week for the coming three weeks [14].

Materials and Methods

It is a cross-sectional study involving 961 confirmed cases data in Iraq till the 5th of April, 2020. The diagnosis of COVID – 19 is being done by using (real-time PCR technique). All the COVID – 19 patients are included since the first case was recorded on February 24, 2020, until April 5, 2020 depending on the data and records of the department of statistics in the Iraqi ministry of health and WHO records [16].

The diagnosis of COVID – 19 is being done by using real-time PCR technique) for a mouth or nose swab that's repeated after 24 hours for confirmation.

The test is done for every patient visiting the hospital

with (Fever, Cough, sore throat, or dyspnea) and every patient is suspected by the doctor or by any medical staff, especially who are coming from endemic countries.

The treatment guidelines that have been followed in Iraq were received from the official health centers and the official papers of the ministry of health that has been published publicly on March 1, 2020, and then modified on March 25, 2020 by adding Azithromycin for the protocol.

The recovery of the patients is confirmed by using real-time PCR technique too (Two negative results 24 hours apart). If both tests are negative and the other radiological tests (CT and X-ray) support the result, then the patient is declared as recovered.

All data was taken from the official department of health in the Iraqi ministry of health that was generalized on all health facilities in the country.

Statistical Analysis:

Social Science (SPSS) version 25 was used in calculations of the statistically differences and the rates of death and recovery.

Results

On the 5th of April, Iraq has only 961 confirmed cases of COVID – 19 as declared by the ministry of health and World Health Organization. About 63% of them were males and 37% of them were females distributed on 17 governorates (Salah al-Din Governorate is the only governorates that have not recorded any confirmed case). The death rate decreased from (8.5%) on the 22nd of March to (6.3%) on the 5th of April (Only 61 of 961 cases died from COVID – 19). On the first of March in 2020, the ministry of health declared a protocol of treatment for the patients presented in Table 1.

On 25, March, the ministry of health modified the guidelines and doses taking into consideration the side effects of each drug is presented in Table 2.

After these guidelines were being used, the recovery rate is increasing and on the 5th of April, it was (31%) of the confirmed cases (279 of 961 cases).

Table 1: The 1st March treatment guidelines in Iraq

The drugs		
	Oseltamivir + Chloroquine	For Moderate Cases
O R	Oseltamivir + Hydroxychloroquine	
O R	Oseltamivir + Ribavirin	
	Kaletra + Oseltamivir + Chloroquine	For Severe Cases
O R	Kaletra + Oseltamivir + Hydroxychloroquine	
O R	Kaletra + Oseltamivir + Ribavirin	
	Kaletra + Oseltamivir + Chloroquine + Ribavirin	For Critical Cases
O R	Kaletra + Oseltamivir + Hydroxychloroquine + Ribavirin	
Kaletra = Lopinavir / Ritonavir		

Table 2. The 1st March treatment guidelines in Iraq. (The modified guideline)

The Case	The Protocol
COVID-19 Positive without Pneumonia	Hydroxychloroquine (400mg BID first day then 200 mg BID for 5 days). Azithromycin (500mg first day, then 250mg daily for 5 days).
COVID – 19 Positive with Pneumonia in the ward	Hydroxychloroquine (400mg BID first day then 200 mg BID for 14 days). Azithromycin (500mg first day, then 250mg daily for 14 days). Tamiflu (75mg twice daily for 5 days).
COVID – 19 Positive with Pneumonia in the ICU	Hydroxychloroquine (400mg BID first day then 200 mg BID for 14 days). Azithromycin (500mg first day, then 250mg daily for 14 days). Tamiflu (75mg twice daily for 5 days). Kaletra (Lopinavir/Ritonavir) (200/50mg, 2 tablets PO BID for 5 days) Antibiotic accordingly.

Discussion

COVID – 19 started to emerge in Iraq after its spreading in Iraq, which is very close to Iraq and a lot of Iraqis go for tourism in Iran because it is cheap and close. After that, the number started to increase until it reached 961 confirmed cases on the 5th of April with recovery rate of 31% and death rate of 6.3%.

Chloroquine, a widely-used anti-malarial and autoimmune disease drug, has recently been reported as a potential broad – spectrum antiviral drug and it is known to block virus infection by increasing endosomal pH required for virus/ cell fusion, as well as interfering with the glycosylation of cellular receptors of SARSv-CoV [9,10].

Patients with SARS treated with Lopinavir/Ritonavir appeared to run a milder disease course in terms of diarrhea, recurrence of fever, and worsening of chest radiographs. A reduction in the viral load was also seen, so using of this combination in the treating of COVID-19 gave effective results in trials and it was approved by many health authorities to be used on patients [11,12].

Azithromycin is an antibiotic but it was found that it has an antiviral effect too and it was used on COVID – 19 patients in combination with Hydroxychloroquine with high efficacy, despite that these two drugs increase the QT – interval on ECG [17]. Side effects can be managed by doses and durations but the efficacy is good and these are the only options available at this time that can limit the spreading of the disease and decrease the death rate.

Many recent studies supported the usage of Hydroxychloroquine as a prophylactic and the Iraqi ministry of health approved it for the medical staff who are in contact with COVID – 19 patients because they are more susceptible to infections, and it shows good effectiveness in addition to protective measurements and precautions [18].

Conclusion

There is no definitive treatment for COVID – 19 and all the treatments are nonspecific and experimental or supportive. When the first case of COVID – 19 was recorded in Iraq, the ministry of health made a guideline for the treating of patients with COVID – 19 and then modified the guidelines on the 25th of March,

the efficacy of these guidelines is very high and the recovery rate is increasing since it has been used on the 1st March.

The combinations of Hydroxychloroquine with Azithromycin and Tamiflu are working in treating or decreasing the symptoms caused by this coronavirus. About 31% of the patients have been recovered without any symptoms and the other cases are milder and under control except the older patients that had chronic diseases or immunocompromised died (about 6.3%) despite that, there is an 80-year-old male who was recovered in Baghdad Medical City on the 4th of April.

Ethical approval and consent

The study was approved by the institutional board of studies and informed consent was obtained from each participants included in the study.

Acknowledgment

We thank the study subjects for participating in this study.

Disclosure

The authors report no conflicts of interest.

Author's contributions

SD was involved in the execution of the project and writing.

Data availability

Available from the corresponding author on reasonable

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