

COVID-19 PANDEMIC

STATEMENT OF THE LEBANESE PULMONARY SOCIETY, THE LEBANESE SOCIETY OF CRITICAL CARE MEDICINE & THE LEBANESE SOCIETY OF ANESTHESIOLOGY

[http://www.lebanesemedicaljournal.org/articles/68\(1-2\)/pandemic13.pdf](http://www.lebanesemedicaljournal.org/articles/68(1-2)/pandemic13.pdf)

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Abi Saleh W, Aoun-Bacha Z, Bou Khalil M, Bou Khalil P, Boulos R, Chami H, Diab Kh, Juvelikian G, Yazbeck P. Statement of the Lebanese Pulmonary Society, the Lebanese Society of Critical Care Medicine & the Lebanese Society of Anesthesiology. *J Med Liban* 2020; 68 (1-2): 83-86.

ABSTRACT • COVID-19 has taken the whole world by surprise and overnight, we found ourselves at war with an invisible yet ruthless adversary. In Lebanon, representatives from the major medical societies at the forefront of the battle convened and drafted a document to serve as a roadmap towards tackling this pandemic. It involves diagnosis and early recognition of severity as well as potential treatment modalities, emphasizing the protection of healthcare personnel.

Keywords: COVID-19; management; statement; prevention

INTRODUCTION

COVID-19 is a highly transmissible viral illness of the Coronavirus family with relatively higher mortality in older individuals and patients with chronic disease. It has a particular predilection for the lungs. In severe cases multiorgan failure can also occur and might lead to death. [1,2]

TRANSMISSION

This disease is highly transmissible mostly through contact and droplets and could become airborne if nebulized.

PREVENTION OF TRANSMISSION

General recommended interventions

They include social distancing, frequent and thorough hand washing for at least 20 seconds with soap, hand rubbing with alcohol-based solution at a 60% to 70%

strength, and frequent disinfection of high-touch surfaces.

Healthcare workers should wear gloves, face masks, eye shields and waterproof full body personal protective gowns when caring for patients with confirmed or suspected COVID-19.

Healthcare workers should additionally wear a N95 mask, preferably fitted, covered by a face shield to cover the whole face and an overall suit when caring for a confirmed COVID-19 patient receiving respiratory support (high flow oxygen, noninvasive or mechanical ventilation) and during aerosol generating procedures (nebulized therapy, bronchoscopy, intubation, suction).

Readiness of healthcare [2,3,4]

Safety of healthcare personnel is paramount. Ideally, every institution caring for COVID-19 should have a dedicated section for patients with coronavirus.

Personal protective equipment (PPE) includes long sleeved waterproof gown or overall suit, gloves covering the sleeve, shoe covers, protective shield or goggles, and mask N95 when performing procedures, in ICU rooms, operating rooms, and negative pressure rooms.

A proper decontamination of healthcare personnel upon removing their PPE is necessary for their own safety and the safety of their loved ones.

Ideally, critical patients should be placed in negative pressure rooms, and it is strongly recommended that intubation be performed in a negative pressure room.

Intubation should be performed via Rapid Sequence method, preferably without Ambu-bagging, preferably video assisted, with maximal barrier and airborne protection.

For severe cases, patients should be ventilated invasively to maximize their chances of recovery and minimize transmission to the surrounding.

In case of invasive mechanical ventilation, we recommend the following:

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- Use closed suctioning.
- Avoid circuit interruption.
- Avoid active humidification.
- Use properly placed bacterial and viral filters.

Avoid aerosolized treatments and use instead a dry powder inhaler (DPI) and a metered dose inhaler (MDI) with spacer (expand DPI and MDI).

Increase availability of critical care beds by restricting and postponing elective surgeries.

Noninvasive ventilation and high flow oxygenators should be avoided and kept as last resort if invasive ventilation is no longer available, as they may increase the risk of contamination.

As critical care beds become all occupied, the operating rooms can be used as critical care units.

PATIENT TRANSPORT

Avoid patient transport when it is possible. Nonintubated patients should wear a mask over their oxygen delivery service. All personnel should be wearing full PPE.

Hallways must be cleared.

Psychological support is strongly recommended to both patients and healthcare providers.[4]

PROPOSED PROTOCOL FOR DIAGNOSIS & TRIAGE OF SUSPECTED COVID-19 PATIENTS (Appendix)

Exposure history

This includes reviewing the history of travel or residency of the patient in a country or region with high COVID-19 exposure. It is also necessary to check whether the individual works in close proximity or lives in the same household as a COVID-19 patient..

Patients with a positive COVID-19 test, fever, cough and negative chest imaging can be discharged to home isolation if that is possible.

Triage of a suspicious case [2,3]

- Common symptoms of COVID-19 are: sore throat, fever, cough, and shortness of breath. Shortness of breath is a common indicator of more severe disease.
- A patient with known COVID-19 contact and/or with known travel to a high-risk area within the past 14 days with 2 out of 4 symptoms should be referred to a designated clinic.
- In case of shortness of breath or hypoxia, the patient should be directed to a designated Coronavirus Emergency Room.

Initial paraclinical assessment lab testing [2.3.5]

CBC, CRP, Chem 6 (basic chemistry). PCR (strongly

recommended if available), chest X-ray.

A CT scan chest should be performed when there is high suspicion despite a normal chest X-ray.

Triage of patients [3,5]

Once a suspected case is confirmed by PCR or serology for COVID-19, we propose the following classification of severity:

1. Mild

Mild clinical disease with no evidence for pneumonia on radiography.

2. Moderate

Fever, respiratory symptoms, and pneumonia on radiography.

3. Severe

Patient exhibits any of the following:

- Tachypnea, RR > 30
- Room air SaO₂ < 93%
- PaO₂/FiO₂ < 300 mmHg
- Chest X-Ray or CT Scan of chest showing > 50% progression within 48 hours.

4. Critical [1]

Patient exhibits any of the following:

- Respiratory failure requiring mechanical ventilation
- Syncope
- Any other organ failure requiring care in a critical care..

TREATMENT [1,5]

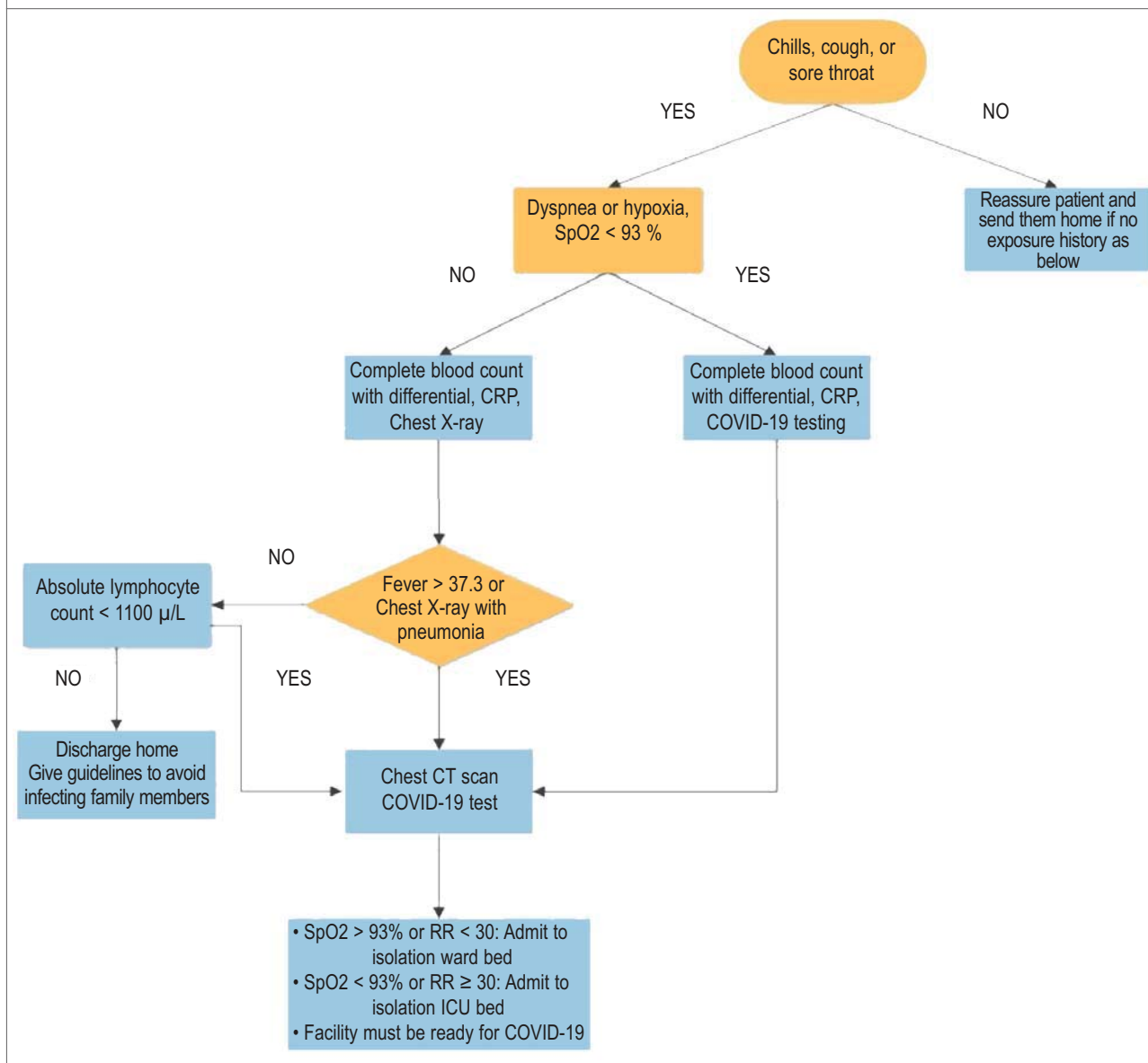
To date no pharmacologic intervention has been proven effective.

There is no strong evidence from randomized clinical trials for the below suggested COVID-19 therapeutic and diagnostic interventions. As such, all suggested diagnostic and therapeutic interventions in this document may be modified as new evidence emerges.

All interventions used in this document are considered investigational or for compassionate use. Decision to use any of the suggested interventions should be made while considering the patient's comorbidities, potential drug interactions, and sound medical judgement.

1. Systemic steroids: No proven benefit with potential harm. Avoid use unless indicated for another pre-existing condition.
2. Non-steroidal anti-inflammatory drugs: They should be avoided in patients with COVID-19 as they may worsen the outcome.
3. Fluid sparing strategy is recommended.
4. A multidisciplinary approach to pharmacotherapy is strongly recommended involving infectious disease consultants and other specialties as deemed appropriate.

APPENDIX
PROPOSED PROTOCOL FOR DIAGNOSIS AND TRIAGE OF SUSPECTED COVID-19 PATIENTS [9,10]



5. Potential treatments that can be considered after consultation with an infectious disease specialist:

a. **Remdesivir: (Captisol)** [5,6]

Remdesivir was proven efficient against Ebola, MERS, and SARS diseases

In the case of COVID-19, the treatment showed promising results in one in vitro study.

The dosing used in this trial was 200 mg IV qd x 1 d, then 100 mg IV qd x 9 d.

b. **Lopinavir/Ritonavir: (Kaluvia ou Kaletra)** [7]

In JAMA a series of cases using Lopinavir to treat COVID-19 patients was published on

March 3, 2020. The suggested dosage used in these cases was 400/100 mg x 14 d

c. **Chloroquine (Nivaquine, Aralen)** [8]

Anti-malarial medication [4,6,8].

Suggested dosing: 500 mg PO BID x 10 d.

d. **Hydroxychloroquine** [4]

After performing a trial, it was found that hydroxychloroquine is more efficient than chloroquine at inhibiting the SARS-CoV-2 virus in vitro.

e. **Tocilizumab (Actemra)** [5,11]

Tocilizumab is known to block the function-

ing of IL-6). Articles suggest that Tocilizumab could help in severe cases of COVID-19 where patients develop cytokine storm (which involves elevated levels of IL-6).

The suggested dosing determined from these trials is: 8 mg/kg in 100 mL of 0.9% NS IV over 60 min x 1.

f. Favipiravir [6]

The dosing suggested regarding the use of Favipiravir as treatment is: 1600 mg PO BID x 1 d, then 600 mg PO BID x 6 d.

ACKNOWLEDGEMENT

All authors have equally contributed to the manuscript.

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