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Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

MANAGEMENT OF COVID 19 WITH MODERATE DISEASE

Excerpted and modified from Guidelines Given
By Government of India Version - 4 and Apollo Hospitals Version - 18

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When to suspect COVID

- Fever
- Sore throat
- Cough
- Less of Taste and Smell prior to onset of respiratory symptoms
- Fatigue and Muscle pain
- Conjunctivitis

COVID IS CATEGORIZED AS

CATEGORY A
CATEGORY B_1
CATEGORY B_2
CATEGORY C
As per Apollo Guidelines.

Note: Govt Of India Guidelines categorizes COVID as Mild, Moderate , Severe which Corresponds to Cat A , Cat B2 and Cat C of Apollo Guidelines.

Emphasis in this bulletin is on Category B1 and B2 patients . (Moderate disease)

Category A – Mild

Mild disease is characterized by fever malaise, cough, upper respiratory symptoms and or less common features of COVID – 19, in the absence of dyspnea or hypoxia. Most of these patients do not need hospitalization

Sats > 94% in room air
Tests : None or CBC + Chest X-ray

Management :

- Home isolation and follow up
- Symptomatic Treatment
- Reassess frequently (Remotely)
- To report to hospital if breathless

Category B_1

Sats > 94%
No Breathlessness
Lung signs
Radiographic evidence of Pneumonia with normal saturation and no dysnoea
Patient can have infiltrates on chest imaging and still be considered to have moderate disease

·Either Outpatient or Inpatient management. Closely monitor for dyspnoea. Admit if saturation falls below 94% or if dyspnoea develops.

Assessment of Dysnoea in Tele/Phone consult

Dangerous Symptom : Breathlessness not associated with cough, Oxygen saturation less than 94%

If which patient develops dyspnoea that raises concern that they have moderate severe disease and these patients often warrant hospitalization
The most important symptom to assess is dyspnoea in remote monitoring of patients .

Dyspnea occurs 4-8days after onset of symptoms or rarely after 10days Dyspnea early in the course of illness is a worrying feature

Patients should be asked if they have developed any difficulty with their breathing, other than that associated with coughing.

If yes the patient should be asked to describe the difficulty in their own words and assess the
Ease and comfort of their speech.

If they can speak in complete sentencesMild dyspnoea – Mild shortness of breath while climbing a flight of stairs or walking briskly.

Moderate Dyspnoea - Limitations to activities of daily living , SOB that limits ability to walk up one flight of stairs or that interfere with meal preparation or light house keeping work.

Severe Dyspnoea – Unable to speak in sentences

Assessment of orthostatic hypotension and fall in BP over Tele/Phone consult

Dizziness
Falls
Mental status changes
Decreased urine output

Category B_2
RR > 24/min
SPO2 – 90-93% in room air
Dysnoea
Category B2 needs admission in High Dependency ward and management according to protocol

Category C
Severe illness
Marked Dysnoea,
RR more than 30/min
Sats Less than 90 %
ARDS
Organ Failure

Admission in COVID ICU

Management of Category B2 Patients

Investigations
CBC
RP2
LFT
CRP
Ferritin
Creatinine kinase

Every other day
D-dimer
PT / PTT / Fibrinogen
2sets of Blood culture + Procalcitonin

Portable X-ray chest
For most patient this is sufficient

Patients with non severe disease having Laboratory abnormalities that are associated with progression to severe disease

Abnormality	Possible threshold
Elevation in:	
*D-dimer	> 1000ng/mL (normal range : < 500ng/mL)
*CRP	> 100mg/L (normal range : <8.0mg/L)
*LDH	> 245 units/L (normal range :110 to 210 units/L)
*Troponin	> 2 x the upper limit of normal (normal range for troponin T high sensitivity : Females 0 to 9ng/L ; Males 0 to 14ng/L)
*Ferritin	> 500mcg/L (normal range Females 10 to 200mcg/L; Males 30 to 300mcg/L)
*CPK	>2 x the upper limit of normal (normal range : 40 to 150units/L)

Treatment

i) Mild dyspnea to moderate hypoxia

SOB with Sats 91-94%

O2 – titrate to Sats 92-96 % (88-92 in COPD patients)

The device for administering oxygen (nasal prongs, mask, or masks with breathing or non rebreathing masks) , depending on Oxygen requirement. If HFNC and Nasal prongs used , apply N95 mask to patient. Awake proning may be used as a rescue therapy. **Early self-proning in awake, non-intubated patients** Any COVID-19 patient with respiratory embarrassment severe enough to be admitted to the hospital may be considered for rotation and early self-proning.

Care must be taken to not disrupt the flow of oxygen during patient rotation. Typical protocols include 30–120 minutes in prone position, followed by 30–120 minutes in left lateral decubitus, right lateral decubitus, and upright sitting position *(Caputo ND, Strayer RJ, Levitan R. Academic Emergency Medicine 2020;27:375–378)* All patients should have daily 12-lead ECG Follow CRP, D-dimer & Ferritin every 48-72 hourly (if available); CBC with differential count, Absolute Lymphocyte count, KFT/LFT daily

ii) Tab. Hydroxychloroquine (400mg) BD on 1st day followed by 200mg 1 BD for 4 days. (after ECG Assessment) Govt of India Guidelines

ii) Remdesivir if available 200mg IV on day I

100mg IV OD x 5 days

Apollo protocol does not include Remdesivir for Cat B2 patients but is included in Western protocols for patients with similar clinical features.

Contraindication – ALT > 5times IV, eGFR < 30ml/min/ 1.73m^2

'iii) Commence steroids Apollo dosing - Dexamethasone 8mg IV daily for 10days substitute for IV Methylprednisolone 40 mg IV if Remdesivir is used.

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Govt of India Guidelines - Dexamethasone 0.1 to 0.2 mg/kg for 3 days ; Methylprednisolone 0.5 to 1 mg /kg IV for 3 days

Anticoagulation

iv) Start LMWH

Enoxaparin 40mg OD For Category B
40mg BD For Category C Start prophylactic dose LMWH immediately after admission for all Cat B2 (eg enoxaparin 40 mg sc q24h) and C (consider higher dose eg enoxaparin 40 mg sc q12h) patients unless there is active bleeding or a platelet count of <25×109/L. Start therapeutic anticoagulation for proven or suspected DVT or PE. A rising d-dimer >1mcg/ml, especially >6 times normal, suggests DVT/PE and predicts a poor prognosis. Prolonged aPTT is not a contra-indication to anticoagulation. Repeat PT, platelet count and d-dimer every 2-3 days.

V) Convalescent plasma
Gives benefit when given early in the course of illness
Convalescent plasma is generally well tolerated.

· May be considered in patients with moderate disease who are not improving (oxygen requirement is progressively increasing) despite use of steroids

Donor recruitment can be challenging. Plasma should ideally be collected by apheresis, which provides more plasma and can be done more frequently without removing the donor's red blood cells. The titer of the relevant antibody can be determined on the donor or the plasma unit, using a biologic or a serologic assay. Plasma donors undergo standard infectious disease screening as well as ABO and RhD typing
Although the efficacy of convalescent plasma is uncertain, potential benefit appears most likely with administration early in the course of severe disease, when virus replication appears to be greatest , prior to the need for intubation.
Testing for anti-human leukocyte antigen (HLA) antibodies (and exclusion if positive) would be ideal in parous female donors to reduce the risk of transfusion-related acute lung injury (TRALI).

VI) Tocilizumab : IL6 pathway inhibitors consider if severely hypoxemic with high IL 6. Surrogate marker will be elevated Ferritin.
Dose is 8mg/kg or 400mg IV can repeat another dose 12hours (not to exceed 800mg of total dose).
Increased risk of secondary bacterial and fungal infection.

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