COVID 19 MANAGEMENT PROTOCOL MMCH

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CONTENT

CASE DEFINITION

Suspect Case

A patient with acute respiratory illness AND residence in Bangladesh or travel to a country reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset.

OR

A patient/ health care worker with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to symptom onset.

OR

A patient with severe acute respiratory illness AND in the absence of an alternative diagnosis that fully explains the clinical presentation.

Probable case

A suspect case for whom testing for the COVID-19 virus is inconclusive.

OR

A suspect case for whom testing could not be performed for any reason.

Confirmed case

A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.

INVESTIGATION

- ✓ Viral Nucleic acid test**: RT-PCR**
- ✓ Radiology & imaging: HRCT (preferable), CXR & USG of chest
- ✓ Supportive :
    - CBC (lymphopenia, leukopenia & thrombocytopenia)
    - CRP & procalcitonin
    - Blood culture for secondary bacterial infection
    - LFT/RFT/ABG
    - S. Ferritin, LDH, D-dimer
    - Others if necessary

ADMISSION CRITERIA

- ✓ **All suspected/ confirmed cases of COVID-19 presenting with**
- Mild case with major risk factor [DM, HTN, IHD, Prior Asthma/COPD/ILD & Known CKD, CLD, Malignancy, High risk pregnancy, Obesity (BMI>25)] and deteriorating mild cases in home/institutional isolation .
- Moderate case- clinical or radiological evidence of pneumonia with CURB-65 score 1 or more.
- Severe Pneumonia
- ARDS, Sepsis, Septic shock
- Hypoxia (SpO2 <94%) in the absence of any clinical signs

MANAGEMENT **"Maintain physical distance from COVID patients, not psychological"**

MILD CASES

Case definition(Clinical):

- ✓ **Mild clinical symptoms**- Fever, runny nose, sore throat, dry cough, nausea, vomiting, diarrhoea, myalgia, weakness, loss of taste and smell.

- ✓ **No** clinical or radiological sign of pneumonia.

Investigation:

CBC
CRP
CXR-PA
ECG(Age>50 yrs)

Management:

- ✓ Home isolation: In absence of **comorbid condition**(HTN, B. Asthma, COPD,DM, CKD,CLD, IHD, Malignancy, HF etc) and pregnancy.
- ✓ Hospital isolation: In presence of comorbid condition and pregnancy.
- ✓ Treatment:
  - General measures: Adequate rest, calorie intake, fluid intake,personal hyegiene, cough etiquette
  - [i]Counselling and reassurance.
  - Medication:

Tab. **Paracetamol**(Napa) 500 1+1+1
Tab. **Fexofenadin**(Fexo) 120 or any antihistamine 0+0+1
Thromboprophylaxis (if hospitalized)-
Inj. **Enoxaparin**(Clexane) 40 mg S/C stat and daily(If Cr Cl >30 ml/min) Or
Inj. **Enoxaparin**(Clexane) 30 mg S/C stat and daily(If Cr Cl 15-30 ml/min)

Therapeutic dose(If indicated)
Inj. **Enoxaparin**(Clexane) 1 mg/kg(60 mg) S/C stat and 12 hourly until condition improves

- ✓ Close Monitoring of patient for disease progression-
  - O_2 Saturation
  - Vital signs & well being

Treatment can be changed according to updated clinical evidences

MODERATE CASES

Case definition(Clinical):

- ✓ Symptoms of mild covid disease
- ✓ Respiratory distress, Res rate > 30/min, radiological evidence of pneumonia
- ✓ O_2 Sat > 93% at room atmosphere.

Investigation:

- ✓ CBC, CRP, SGPT, S.Creatinine, LDH
- ✓ CXR-PA, HRCT of chest(**If needed**).

Management:

- ✓ Hopspitalized treatment
- ✓ All treatment of mild cases +
  - Inj. **Enoxaparin**(e.g-Clexane) 1 mg/kg S/C 12 hourly until recovery
  - After that-Tab. **Rivaroxaban** 10 mg(e.g-Rivaxa) 1+0+0---for 4-6 week
  - Oxygen by nasal cannula 2-6 L/min to maintain sat **93-96%**
  - Prone position(At least **4-6 hr/day)**
  - Antivirals-
    Inj. **Remdisivir**(e.g-Remvir**)** 200 mg IV over 30 min-2 hour on day 1
    Then 100 mg IV on day 2-5 **Or**
    Tab. **Favipiravir(e.g-Favipira)** 1600 mg 1+0+1(Day 1)
    600 mg 1+0+1(Day 2-10)
  - Antibiotic- Inj.**Cetriaxone**(e.g-Ceftron) 2 gm IV daily **or**
    Inj. **Meropenem**(e.g-Meropen) 1 gm IV 8 hourly **with**
    Tab. **Azithromycin**(e.g-Azithrocin)500 1+0+0/ Cap. Doxycycline 100 1+0+1
  - Steroid not given in early viremia, but If **no reponse within 24 hour**-
    Tab. **Methylprednisolone 60-80 mg** in divided doses(e.g- Tab. Solupred 24 mg 1+1+1)
    Or, **Tab. Dexamethasone 6 mg daily** (e.g-Dexa 0.5 4+4+4).
    All steroid under anti ulcerant coverage.
    Monitor patient for progression of diseases.

Treatment may be changed according to updated clinical trials

SEVERE CASES

Case definition(Clinical):

- ✓ Res. Distress with RR> 30/min, O_2 sat **< 90%(WHO) or <93%(National guideline)**
- ✓ $PaO_2/FiO_2 < 300$

Investigation:

- ✓ CBC, CRP,RBS, S.Creatinine,SGPT ,LDH, S.Electrolytes
- ✓ ABG, S.Lactate, S. Ferritin, D-dimer, Pro-calcitonin

- ✓ CXR-PA, HRCT of chest.
- ✓ ECG, Echo, Trop-I

Management:

- ✓ Should be managed in **ICU, HDU**
- ✓ Prone positioning at least **12 hr/day**
- ✓ Maintainance of O_2 (94-96%) by Nasal cannula, non-rebreather mask, venturi mask, HFNC
- ✓ If fails to maintain oxygenation-
    - **CPAP-For T1 Res. Failure**
    - **BiPAP- For combined T1 & T2 Res failure**
- ✓ If these measure fails- Mechanical ventilation as last measure.
- ✓ All treatment of moderate Covid 19(**Antiviral, Antibiotic**) except oral steroids
- ✓ Inj. **Methylprenisolone 250 mg**(e.g-Solupred) IV daily in divided doses **or** **Inj. Dexamethasone(Dexa)- 2 amp IV 12** hourly(5-10 days for ARDS as per national guideline) **or**
  Inj. Dexamethasone(e.g-Dexa**)** 1 amp IV daily as recovery trial.
- ✓ Maintain nutrition and **euvolemic** state.
- ✓ **Early administration of Adrenaline, Noradrenaline, Dopamine or Desmopressin for hypotension**
  (e.g- Inj. Noradrenaline 2 amp +100 ml NS IV@10 micro d/min.
- ✓ Convalescent plasma therapy & ECMO can be given.
- ✓ Anti inflammatory therapy- **Inj. Tocilizumab**
    - Dose- 8 mg/kg over an hour(Repeated after 12 hour if needed)
    - Indication-
        - Bl. Pulmonary infiltrate
        - Failure to maintain oxygen sat over 92%
        - $PaO_2/FiO_2 < 300$
        - Evidence of cytokine storm- CRP>50, LDH>250, D-dimer >1 mg/L, Ferritin >500

Treatment can be changed according to updated clinical trials

CRITICAL CASE

Case Definition(Clinical):

- ✓ Respiratory failure requiring mechanical ventilation
- ✓ [ii]Septic Shock
- ✓ Multiorgan Failure

Investigation:

- ✓ Same for severe case and ICU admitted cases.

Management:

- ✓ Respiratory support by **mechanical ventilation** under supervision of Res. Medicine specialist or Critical Care specialist.
- ✓ **Management of hypotension by adrenaline or nor adrenaline** etc.
- ✓ Hypotension in adult is managed by crystalloid solution(Normal Saline, Hartman Solution). **250 ml can be given @bolus** dose and maintained thereafter.
- ✓ Organ failure should be managed by individual specialist.
- ✓ Other measures(**antiviral, steroid, tocilizumab,antibiotic**) same as severely ill patients.
- ✓ **Convalescent plasma therapy.**
- ✓ Repeatation of investigation as needed.

Treatment can be changed according to updated clinical trials

Miscellaneous of COVID 19

Indication of plasma therapy(Must meet all the criteria)

- ✓ Age 18 years or more.
- ✓ Written informed consent
- ✓ PCR positive COVID 19 Case
- ✓ Admitted in ICU

- ✓ Severe or life threatening disease(Defined by at least 1)
  - Increasing dyspnoea
  - RR > 30
  - SpO2 < 88%
  - Multi Organ failure
  - Septic Shock
  - Lung infiltrate 50% or more in last 24-48 hour
  - P/F < 300

DM and COVID:

Glycemic target:

- ✓ HbA_1C: **<7** (**<8** in special case)
- ✓ Mild to moderate case & pt on steroids:
  FBG: 4.4-6.1 mmol/L
  2 hr PPG: 7.8-10 mmol/L
- ✓ Severe & critically ill patient:
  FBG: 7.8-10 mmol/L
  2 hr PPG: 7.8-13.9 mmol/L
- ✓ ICU setting-
  RBG: 7.8-10 mmol/L

Discharge criteria of COVID 19:

- ✓ Afebrile for at least 3 days without antipyretic
- ✓ Significant improvement of respiratory symptoms(Cough, shortness of breath) for at least 3 days
- ✓ General well being.
- ✓ After discharge-maintain isolation for total 21 days(from day of onset of symptoms)
- ✓ In critical patient-physicians judgement.

Treatment can be changed according to updated clinical trials

FEW AID TO HOSPITAL MANAGEMENT

Case history

Cabin No/Bed no:

Patient's Name:
Reg No:

Age:
Mob No:

Clinical History:

Fever (Days)	Cough (days)	Sore throat	Diarrhoea	Resp distress	Myalgia	Others

H/O Comorbidity:

DM	HTN	IHD	Asthma	COPD	CKD	CLD	Cancer	ILD	High risk Preg	Obesity

Severity:

Asymptomatic	Mild	Moderate	Severe	Critical

Investigation & F/U:

SpO_2	CBC	CRP	S.Ferritin	D-dimer	RBS	SGPT	S. creatinine	Electrolyte	CXR/HRCT	ECG

Examples of hospital Order

Hospitalized Mild Case

Advice:

- CBC
- CXR/HRCT
- RBS/FBS/2 hr PPG
- S. Creatinine
- S. Electrolytes
- ECG

1+0+1

- ✓ Tab. Xinc 20
  0+1+0
- ✓ Continue anti-hypertensive /antidiabetic /CKD /B. Asthma /COPD drugs

Order on admission; Date & Time

- ✓ Diet: Normal/Diabetic/Fruit Restricted
- ✓ Adequate Rest
- ✓ Tab. Azithromycin 500
  1+0+0
- ✓ Tab. Paracetamol 500
  1+0+1
- ✓ Cap. Omeprazole 20
  1+0+1(B/M)
- ✓ Tab. Histacin/Fexofenadin 120
  0+0+1
- ✓ Tab. Ceevit 250

i
ii

Moderate Cases

Advice:

- CBC
- CRP
- SGPT, LDH,D-dimer,procalcitonin
- S.Creatinine, S. Electrolytes
- CXR-PA, HRCT of chest(**If needed**).
- FBG/ 2hr PPG

Order on admission; Date & Time

- ✓ Diet: Normal/Diabetic/Fruit Restricted
- ✓ O_2 inhalation 2-6 L/min if needed
- ✓ Adequate Rest

- ✓ Inj. **Enoxaparin**(e.g-Clexane) 60 mg
  S/C 12 hourly until recovery
- ✓ Prone position(At least **4-6 hr/day)**
- ✓ Inj. **Remdisivir**(e.g-Remvir**)** 200 mg IV over 30 min-2 hour on day then 100 mg IV on day 2-5 **Or**
  Tab. **Favipiravir(e.g-Favipira)** 1600 mg 1+0+1(Day 1)
  600 mg 1+0+1(Day 2-10)
- ✓ Inj.**Cetriaxone**(e.g-Ceftron) 2 gm IV daily **or**

  Inj. **Meropenem**(e.g-Meropen) 1 gm

  IV 8 hourly

- ✓ Tab. Solupred 24 mg(**If no reponse within 24 hour**)
  1+1+1 **Or**
  Tab. Dexa 0.5
  4+4+4(A/M)
- ✓ Tab. Azithromycin 500
  1+0+0
- ✓ Tab. Paracetamol 500/Napa
  1+0+1
- ✓ Cap. Omeprazole 20
  1+0+1(B/M)
- ✓ Tab. Histacin/Fexofenadin 120
  0+0+1
- ✓ Tab. Ceevit 250
  1+0+1
- ✓ Tab. Xinc 20
  0+1+0
- ✓ Continue anti-hypertensive/antidiabetic/CKD/B. Asthma/COPD drugs

Severe & Critical Cases are managed in ICU as per guideline and under specialist supervision of multiple specialities.

Advice:

- CBC
- CRP
- SGPT, LDH,D-dimer,procalcitonin
- S.Creatinine, S. Electrolytes
- CXR-PA, HRCT of chest(**If needed**).
- FBG/ 2hr PPG
- ABG, pH

- ✓ Diet: Normal/Diabetic/Fruit Restricted
- ✓ O_2 inhalation 2-6 L/min if needed
- ✓ Adequate Rest

- ✓ Inj. **Enoxaparin**(e.g-Clexane) 60 mg S/C 12 hourly until recovery
- ✓ Prone position(At least **4-6 hr/day)**

- ✓ Inj. **Remdisivir**(e.g-Remvir**)** 200 mg IV over 30 min-2 hour on day then 100 mg IV on day 2-5 **Or**
  Tab. **Favipiravir(e.g-Favipira)** 1600 mg 1+0+1(Day 1)
  600 mg 1+0+1(Day 2-10)
- ✓ Inj.**Cetriaxone**(e.g-Ceftron) 2 gm IV daily **or**

  Inj. **Meropenem**(e.g-Meropen) 1 gm

  IV 8 hourly

- ✓ Inj. Solupred 125 mg IV BD **or**
  Inj. Dexamethasone(Dexa)-2 amp IV BD
  or
  Inj. Dexa 1 amp IV daily
- ✓ **Inj. Tocilizumab 80 mg**
  + 100 ml N/S over an hour
  (Repeated after 12 hour if needed)
- ✓ Convalescent Plasma 200 ml IV@50 d/min stat & BD(If needed)
- ✓ Tab. Azithromycin 500
  1+0+0
- ✓ Tab. Paracetamol 500/Napa
  1+0+1
- ✓ Cap. Omeprazole 20
  1+0+1(B/M)
- ✓ Tab. Histacin/Fexofenadin 120
  0+0+1
- ✓ Tab. Ceevit 250
  1+0+1
- ✓ Tab. Xinc 20
  0+1+0
- ✓ Continue anti-hypertensive /antidiabetic/CKD/B. Asthma/COPD drugs

Sources:

- ✓ National COVID 19 guideline-7th edition.
- ✓ WHO COVID 19 guideline
- ✓ Recent Clinical Trials