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AHMEDABAD FAMILY PHYSICIANS ASSOCIATION



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COVID-19 PREVENTION

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PRESIDENT & SECRETARY'S ADDRESS

Dear Friends,

We have seen many COVID-19 victims either quarantined at home or hospitalised at designated COVID hospital.

Some of our members, were victims too. Some friends were quarantined. Now all AFPA members are back in the practice to fight against present Pandemic as front line warriors. Some of our senior members have yet not started their practice as per guidelines. We AFPA doctors are always active in all conditions. In this lockdown period we have attended many webinars. Even Dr. Ashwin Shah entertained us by online housie, selfie Hunt & India tour.

We also enjoyed entertainment program on 26/4/20 in which our members participated. Friends, we pray Almighty God to grant eternal peace to the departed souls . Also for well being of the frontline warriors in particular and public at large.

JAY AFPA





COMMITTEE MEMBERS



Late Dr. Sandip J. Dave
President



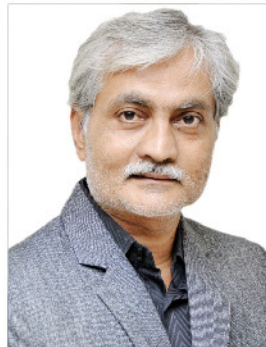
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Predicting Disease Progression : Timing

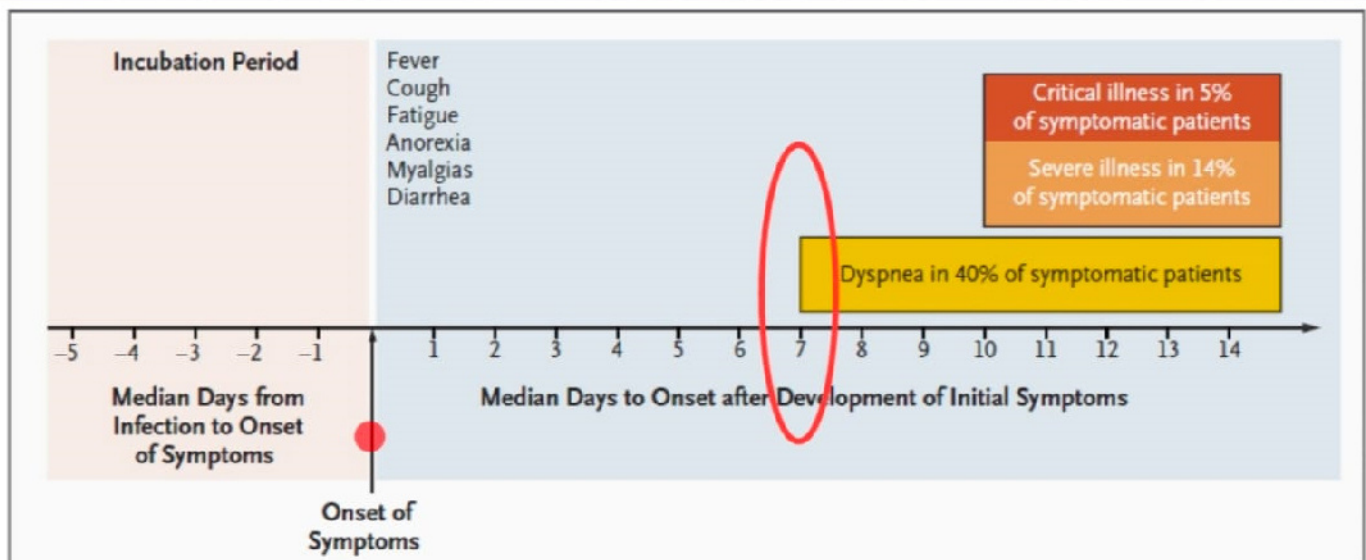


Figure 1. Timeline of Symptoms of Severe Coronavirus Disease 2019 (Covid-19).

The left border of the colored boxes shows the median time to onset of symptoms and complications. There is wide variation in the duration of symptoms and complications. Adapted from Zhou et al.² and the Centers for Disease Control and Prevention.¹

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Which Antiviral?

	FAVIPIRAVIR	REMEDESIVIR
MECHANISM OF ACTION	Terminates viral replication by binding to RNA dependent RNA Ploymerase	Terminates viral replication by binding to RNA dependent RNA Ploymerase
FORMULATION	Oral - OPD	Moderate - Severe disease, SpO ₂ < 94% on RA, Pts. Receiving supplemental oxygen < 12 days of symptoms
INDICATION	Mild - Moderate disease SpO ₂ > 93% RA < 7 Days of symptoms	200mg on Day 1 followed by 100mg once daily (Max. 10 days)
DOSE	1800mg bid Day 1, followed by 800mg bid (Max. 14 days)	Severe Renal impairment (eGFR < 30) Pregnancy/ Hepatic impairment: Not known
CONTRAINICATIONS	Severe Renal and Hepatic impairment, Pregnancy, Lactation distributed in sperm - contraception for >7 days	Severe Renal and Hepatic impairment, Pregnancy, Lactation distributed in sperm - contraception for >7 days
PRECAUTIONS	History of Gout, Pyschoneurotic symptoms	Increased Risk of Transaminase Elevation
DRUG INTERACTIONS	Pyrizinamide, Repaglinide, Theophylline	Minimize the consurrent use of any nonessential medications
COADMINISTRATION WITH HCQS	? Monitor QT	Reduced antiviral effect





Severe Disease: When to Expect?

- Three distinct but overlapping phases and pathological subsets of Covid-19 infection – the first two triggered by the virus itself and the third, by the host response
- 1) Viral response phase (about 1-6 days after start of symptoms),
 - 2) Pneumonic phase (about days 6-10) which may progress to acute lung injury and ARDS
 - 3) Hyperinflammatory phase (CRS) which typically occurs after day 8 in a minority of patients with worsening ARDS, multiorgan dysfunction syndrome (MODS), coagulation abnormalities, myocarditis and death





GUIDELINES FOR THE CLINICAL CARE OF PEOPLE WITH COVID-19

MILD

Adults not presenting any clinical features suggestive of moderate or severe disease or a complicated course of illness.

Characteristics:

- no symptoms
- or **mild upper respiratory tract symptoms**
- or cough, myalgia or asthenia **without new shortness of breath or a reduction in oxygen saturation**

MODERATE

Stable adult patient presenting with **respiratory and/or systemic symptoms or signs.**

able to **maintain oxygen saturation >92%**(or above 90% for patients with chronic lung disease) with up to **4L/min oxygen via nasal prongs**

Characteristics :

- prostration, severe asthenia, fever > 38 degree celcius or persistent cough
- clinical or radiological signs of lung involvement
- **no clinical or laboratory indicators of clinical severity or respiratory impairment**

SEVERE

Adult patients meeting any of the following criteria:

- **Respiratory rate > 30** breaths/min
- **oxygen saturation < 92% at a rest state**
- $P_{aO_2}/F_{iO_2} < 300$

CRITICAL

• Adult patient meeting any of the following criteria:

- Respiratory failure
- Occurrence of severe respiratory failure (**P_{aO_2}/F_{iO_2} ratio < 200**), respiratory distress or ARDS. This included **patients deteriorating despite advances forms of respiratory support (NIV, HFNO) OR patients requiring mechanical ventilation.**
- OR
- other signs of significant deterioration
- **Hypotension or shock**
- **impairment of consciousness**
- **other organ failure**





Steroid in CRS

- Steroids are the most commonly used drugs for immunomodulatory therapy of infectious diseases.
- Studies have shown that **early use of steroids during the SARS-CoV infection was associated with a higher plasma viral load with delayed viral clearance**
- **Cautious use of corticosteroids** is only recommended in **certain critically ill patients** (e.g. those with progressive deterioration of oxygenation indicators) at **low-to-moderate doses** (no more than 0.5-1mg/kg/day methylprednisolone or equivalent) for **short duration (3-4 days)**





Drugs For Treatment of Covid 19: Indian Scenario

DRUGS AFFECTING VIRAL REPLICATION	IMMUNOSTIMULANTS	IMMUNOMODULATORS
<p>ANTI VIRALS:</p> <p>Favipiravir Remdesivir Lopinavir + ritonavir</p>	<p>Immunostimulants Convalescent Plasma IVIG</p>	<p>Immunomodulators Low dose Steroids Anti-IL 6 receptor antibody:Tocilizumab Colchicine</p>
<p>NON ANTIVIRALS POSSIBLY WITH SOME BENEFITS:</p> <p>HCQS Ivermectin</p>		





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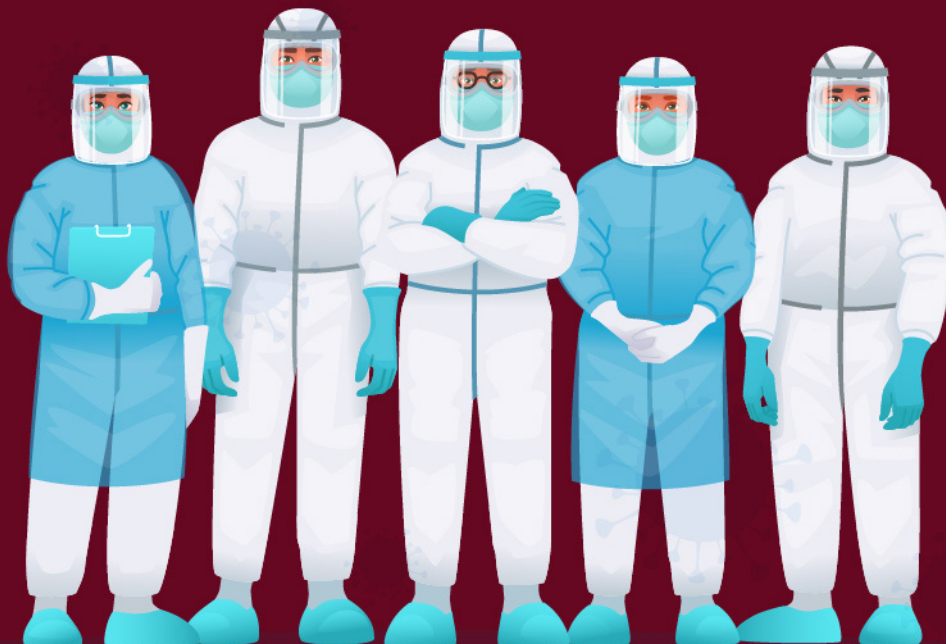
Which to Use ?

Favors Steroids

- Rapid worsening over hours
- No risk factors for steroid use
- Low levels of IL 6, with high CRPs, d dimers, LDH
- Persistently high inflammatory markers
inspite of Tocilizumab

Favors Tocilizumab

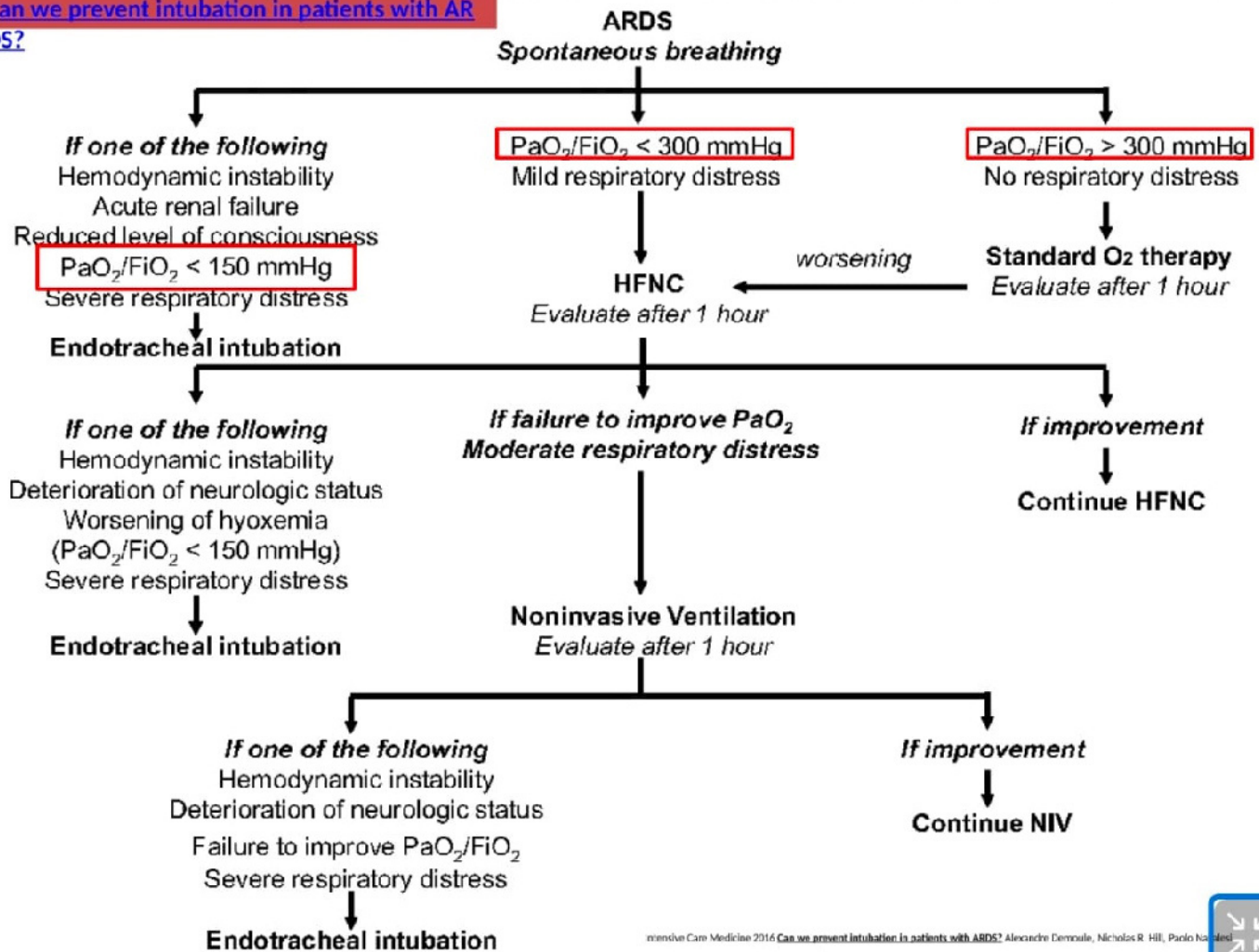
- Indolent course
- Ris factors for steroids use: Diabetics, age ≥ 65 , Prone for GI bleed, Obesity
- High Levels of IL-6
- Persistently high inflammatory markers inspite of steroids





Can we prevent intubation in patients with ARDS?

DS?



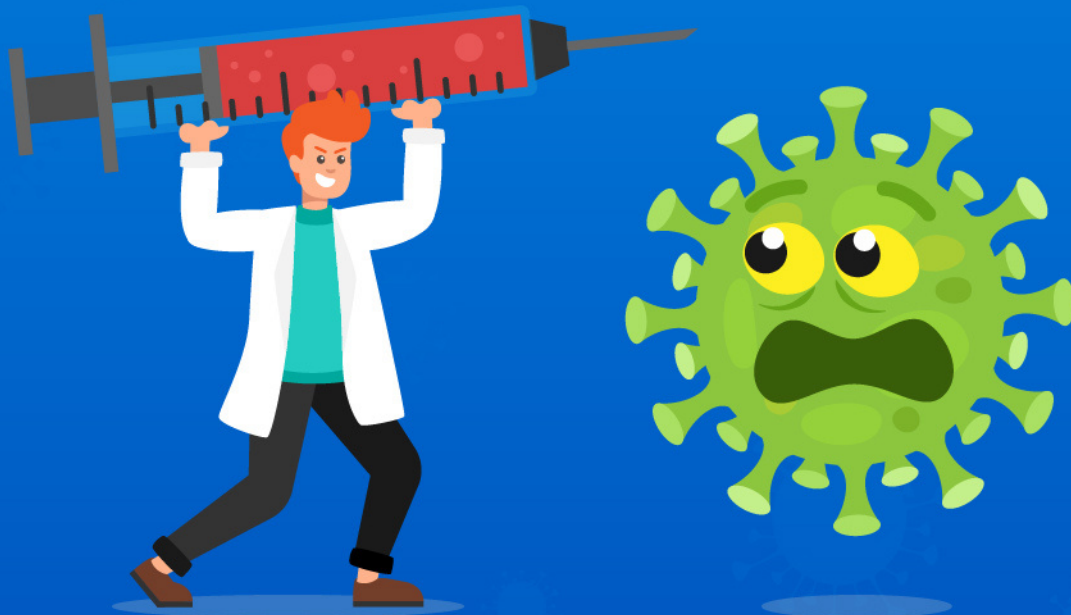
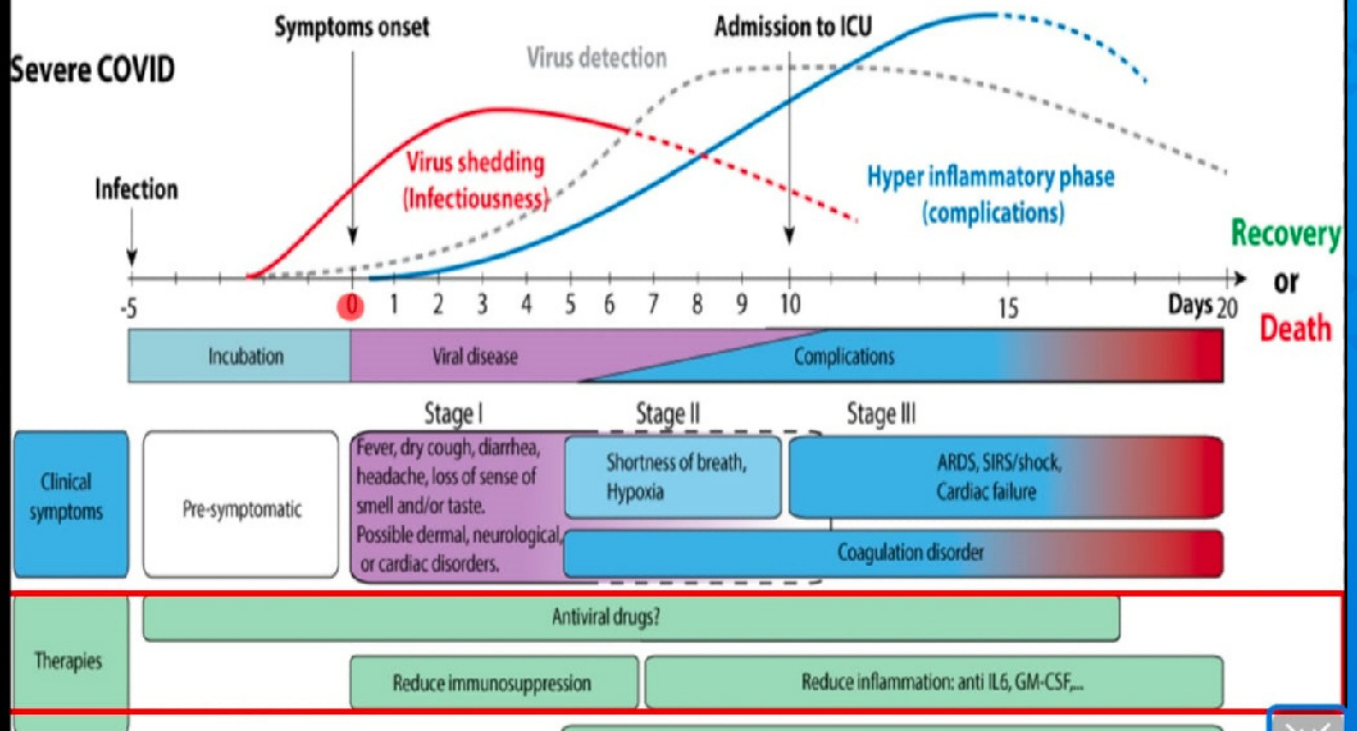
respiratory Care Medicine 2016 Can we prevent intubation in patients with ARDS? Alexandre Demoule, Nicholas R Hill, Paolo Nava





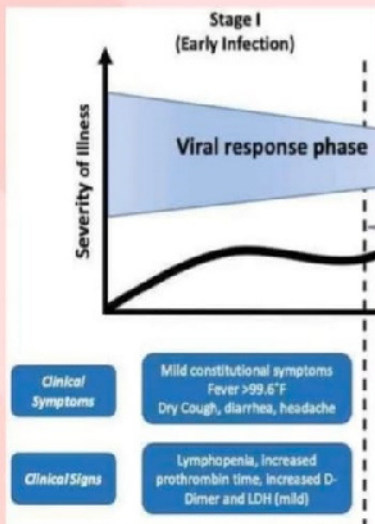
Timing Of Drugs

<https://viralzone.expasy.org/9116>





Mild Covid 19 Disease : Therapeutic Options



- TAB HYDROXYCHLOROQUININE(HCQ) 400MG BD FOR 1 DAY Followed by 200MG 1-0-1 X 4 DAY **for patients in COVID CARE CENTER/HOME ISOLATION** (OR)

Tab FAVIPIRAVIR 1800mg 1-0-1 on Day 1
 7/b 800mg 1-0-1 for 6 days (total 7 days) **for PATIENTS IN DCHC**

(OR)

If Tab HCQ/Tab FAVIPIRAVIR is contraindicated, then combination of
 Cap DOXYCYCLIN 100mg 1-0-1 for 5 days

+
 Tab IVERMECTIN 12mg 1-0-0 for 3 days

- [†]Cap Oseltamavir 75mg 1-0-1 for 5 days

SUPPORTIVE THERAPY-

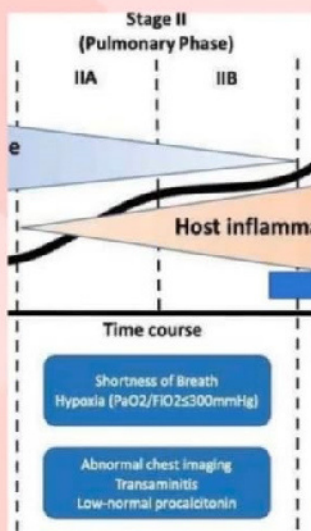
- TAB ZINC 50 MG 0-1-0 X 7 DAYS
- TAB VITAMIN C 500 MG 1-1-1 X 7 DAYS
- Tab N Acetylcysteine 600mg 1-1-1 If Patients Having Cough



ANTICOAGULATION

- Inj ENOXAPARIN 40mg S/C 1-0-0 X 7 DAYS (IF D-DIMER IS MORE THAN 1000NG/ML (OR) X-RAY/CT THORAX SHOWS GROUND GLASS OPACITIES)

Moderate Covid 19 Disease : Therapeutic Options



ANTIVIRAL THERAPY

- Inj REMDESIVIR 200 mg IV on day 1 followed by 100 mg IV daily for 4 days (total 5 days)

IF REMDESIVIR IS NOT AVAILABLE TO START TAB HYDROXYCHLOROQUININE(HCQ) 400MG BD FOR 1 DAY followed by 200MG 1-0-1 X 4 DAY

Co-administration of Inj REMDESIVIR with HCQ or chloroquine should be avoided

- Cap Oseltamavir 75mg 1-0-1 for 5 days

STEROIDS

- Inj. Methyl Prednisolone 0.5 -1 mg/kg (or)
- Inj. Dexamethasone 0.1 – 0.2 mg/kg for 3-5 Days

ANTICOAGULATION

- Inj ENOXAPARIN 40MG S/C 1-0-0 x 7 DAYS

- CONVALASCENT PLASMA THERAPY: 4 to 13 ml/kg (usually 200 ml single dose given slowly over not less than 2 hours)

IV ANTIBIOTICS ACCORDING TO LOCAL ANTIBIOGRAM

AWAKE PRONING



SUPPORTIVE THERAPY-

- TAB ZINC 50 MG 0-1-0 X 7 DAYS
- TAB VITAMIN C 500 MG 1-1-1 X 7 DAYS
- Tab N Acetylcysteine 600mg 1-1-1 If Patients Having Cough



Severe Covid 19 Disease : Therapeutic Options

ANTIVIRAL THERAPY

- If the patient has not received Inj REMDESIVIR, such patients can be started on Inj REMDESIVIR. Inj REMDESIVIR 200 mg IV on day 1 followed by 100 mg IV daily for 4 days (total 5 days)
- Inj. TOCILUZUMAB 8mg/kg (maximum 800 mg at one time) given slowly in 100 ml NS over 1 hour; dose can be repeated once after 12 to 24 hours if needed

(Or)

- Inj ITOLIZUMAB: 1st dose – 1.6mg/kg dose iv infusion. Subsequent dose: weekly 0.8mg/kg dose infusion over 4hours if required

- Cap Oseltamavir 75mg 1-0-1 for 5 days

ANTICOAGULATION

- Inj ENOXAPARIN 1mg/kg body wt s/c 1-0-1 X 7 DAYS

Inj CEFTRIAZONE 1gm IV 1-0-1 AND CAN BE ESCALATED ACCORDING TO LOCAL ANTIBIOGRAM OR TREATING PHYSICIAN

CONSIDER SEPSIVAC (IF AVAILABLE) 0.3ml INTRADERMAL ONCE A DAY FOR 3 DAYS IN CASE OF SEPTIC SHOCK

PRONE VENTILLATION

SUPPORTIVE THERAPY-

- TAB ZINC 50 MG 0-1-0 X 7 DAYS
- TAB VITAMIN C 500 MG 1-1-1 X
- Tab N Acetylcysteine 600mg 1-1-1 Having Cough

STEROIDS

- Inj. Methyl Prednisolone 0.5 -1 mg/kg (or) Inj. Dexamethasone 0.1 – 0.2 mg/kg for 3-5 Days

