Interim Recommendation on Clinical Management of Adult Cases with Coronavirus Disease 2019 (COVID-19)

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1. Purpose

1.1. To provide guidance on clinical management of patients with Coronavirus Disease 2019 (COVID-19)

2. Scope

2.1. For all healthcare workers at hospitals

3. Introduction

3.1. A new strain of coronavirus (COVID-19, formerly known as novel coronavirus (nCoV)) which has not been previously identified in human, was reported in Wuhan, China in December 2019. It belongs to a clade of betacoronavirus distinct from those associated with human severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). COVID-19 causes acute respiratory infection and pneumonia. Symptoms include fever, malaise, dry cough and shortness of breath. Some patients may have respiratory symptoms without fever and some patients may also have diarrhea. People of older age or having underlying chronic disease are at a higher risk of deterioration into serious condition.

4. Surveillance and reporting criteria

4.1. Please report suspected cases fulfilling the reporting criteria of "Severe Respiratory Disease associated with a Novel Infectious Agent" to the Central Notification Office (CENO) of CHP via fax (2477 2770), phone (2477 2772) or CENO On-line (https://cdis.chp.gov.hk/CDIS_CENO_ONLINE/ceno.html). The case definition is available on the above website of CENO On-line. Both reporting criteria and case definition are subject to change upon availability of further epidemiological, clinical and virological data.

5. Clinical Management

5.1. Isolate the patient(s) in airborne infection isolation room (AIIR) with standard, contact, droplet and airborne precautions

5.2. Notify via NDORS/ eNID, and update the confirmed patient data when necessary

5.3. Diagnosis:

5.3.1. Specimens for RT-PCR of nCoV

- Lower respiratory tract (preferred if available): sputum or tracheal aspirate (TA) if intubated

OR

- Upper respiratory tract: Nasopharyngeal Flocked swab (NPFS) or Nasopharyngeal Aspirate (NPA) [Pooled with throat swab in viral transport medium]
- Stool: For patient fulfilling reporting criteria with diarrhea, stool can be sent to PHLSB for RT-PCR for nCoV testing

5.3.2. For preliminarily positive cases, specimen should be re-tested and sent to PHLSB for confirmation

5.3.3. Repeated testing may be necessary to exclude the diagnosis. Please consult the clinical microbiologists or infectious disease physicians for advice

5.3.4. If patient has any stool sample being tested positive for nCoV previously, contact precaution should be maintained until negative result from stool has been obtained

5.3.5. Microbiological workup as appropriate, e.g.

- Sputum, urine and blood culture
- NPA +/- Tracheal aspirate for flu A/B and other respiratory viruses
- NPA +/- Tracheal aspirate for atypical pneumonia PCR
- Urine for legionella and pneumococcal antigen

5.3.6. Other investigations e.g. CBP with D/C, L/RFT, CaPO4, glucose, ESR, CRP, procalcitonin, CXR and ECG, etc.

5.4. Start empirical antimicrobial agents

5.4.1. β lactam/β-lactamase inhibitor combination or 3rd generation cephalosporin +/- macrolide/doxycycline

5.4.2. Respiratory fluoroquinolone for patient with βlactam allergy

5.5. Monitor vital signs and organ functions, and recognize complication(s) early

5.6. Liaise with ICU early for intensive care if anticipate clinical deterioration

5.7. Provide supportive treatments

5.7.1. Oxygen

5.7.2. IV fluid (conservative fluid management for severe respiratory failure)

5.7.3. Vasopressors support +/- steroid[#] (e.g. for septic shock) based on clinical judgment

5.7.4. High-flow nasal oxygen (HFNO) should only be used in selected patients with hypoxemic respiratory failure. These patients should be closed monitored for clinical deterioration.

5.7.5. Mechanical ventilation with protective lung ventilation +/- consider ECMO for refractory respiratory failure

5.7.6. Renal replacement therapy (renal failure)

[#] Use of corticosteroids

- Do not routinely give systemic corticosteroids
- Use of short-period, stress dose steroids (hydrocortisone 200mg max daily) for refractory septic shock or other clinical indications on physician discretion

6. Use of Specific anti-COVID-19 treatments

6.1. There is no current evidence from randomized controlled trials to recommend any specific anti-COVID-19 treatment for patients with confirmed COVID-19 infection.

6.2. Unlicensed treatment should be given under ethically-approved clinical trials as far as possible.

6.3. In the absence of appropriate clinical trials, the following treatment regimens may be considered. These regimens are determined based on evidence extrapolated from research performed for other coronaviruses, expert opinion, as well as the availability of therapeutics in Hong Kong. This serves as an

interim guidance, and will be updated according to the availability of new evidence or drug availability.

6.3.1. May consider the following regimen in confirmed patients (Not a standard therapy)

lopinavir/ ritonavir 400mg/100mg (Kaletra) BD po for 14 days

+/-

Ribavirin 400mg BD po for 14 days

+/-

Interferon beta-1b 0.25mg subcutaneous every alternate day for 3 doses (D1-2, D3-4, D5-6 of symptom onset)

Kaletra is considered as the backbone therapy. Additional use of other two drugs is based on in-charge hospital/ cluster Infectious Diseases Physician's discretion.

6.3.2. Omit the remaining doses of interferon beta-1b when the symptom onset is beyond 7 days (e.g. if the patient presents on day 6 of symptoms onset, only one dose of interferon should be given)

6.3.3. If patient presents with symptoms beyond 7 days, only ribavirin and kaletra should be given

6.3.4. Reserve syrup formulation of kaletra in patients in ICU, paediatric patients or patients with swallowing difficulty

6.3.5. Dosage adjustment of ribavirin is required for renal impairment

6.3.6. Pre-treatment workup

6.3.6.1. Check blood x CBP, LRFT, RG, LDH, CK, HBsAg, anti-HCV, anti-HIV

6.3.6.2. + blood x TFT, ANA (for starting interferon)

6.3.6.3. CXR (+/- HRCT thorax if indicated)

6.3.6.4. ECG (if preexisting cardiac abnormalities or disease or clinically indicated). For patients with underlying pre-existing cardiac problems, follow-up monitoring of the cardiac condition is suggested.

6.3.6.5. Pregnancy test for females with reproductive potential (Before starting interferon or ribavirin)

6.3.6.6. Check any drug interactions with concomitant medications (in particular with ritonavir)

6.3.6.7. Obtain consent for treatment

(i) Unlicensed indication and treatment is experimental

(ii) Side effects of treatment

(iii) Contraindications:

- Interferon beta-1b: history of hypersensitivity to interferon beta, albumin; pregnancy, decompensated liver disease, current severe depression and/or suicidal ideation
- Ribavirin: history of hypersensitivity to ribavirin; pregnant; patients with hemoglobinopathies (e.g. thalassemia major, sickle cell anemia)
- Kaletra: history of hypersensitivity to lopinavir, ritonavir, avoid in patients with congenital long QT syndrome and cautious use in patients using other drugs that prolong QT interval

(iv) For mentally incapacitated patients, may communicate with next of kin and attain consent from them with proper documentation.

6.3.7. Monitoring during treatment

6.3.7.1. Blood x CBP, LRFT, LDH, CRP

6.3.7.2. Repeat NPS/ Throat swab x nCoV twice, 24 hours apart before isolation release

6.3.7.3. Repeat Stool x nCoV if there are previous positive results before isolation release

6.3.7.4. Any side effects

7. Release from Isolation

7.1. Confirmed cases can be released from isolation when their clinical conditions improve and afebrile, and with two clinical specimens tested negative for novel coronavirus taken at least 24 hours apart, after discussion with MCO of CHP and lifting of isolation order.

8. References

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