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திகதி) 05 / May / 2014
Date)

DDG (PHS I),
All PDHS, RDHS,
Directors/Medical Superintendents,
All Teaching, General and Base Hospitals

Summary Guidelines for Clinical Management of patients with Middle East Respiratory Syndrome –Corona Virus (MERS – CoV) infection

Middle East Respiratory Syndrome – Corona virus is an emerging disease, caused by a new strain of a corona virus previously not identified in humans. It causes an acute serious respiratory illness with fever, cough, and shortness of breath and breathing difficulties. Based on current clinical experience, the infection generally presents as pneumonia. It has caused kidney failure in some cases.

Update on Middle East Respiratory Syndrome Corona Virus Infection (MERS – CoV)

The 1st case of MERS – CoV was recorded in Saudi Arabia in June 2012. The total number of lab confirmed MERS – CoV cases to date in Saudi Arabia is 205, including 71 deaths (CFR 35%). WHO update dated 26 April 2014; globally there were 261 cases and 93 deaths. Saudi Arabia website informed that much larger number of lab confirmed cases and deaths have been reported. Especially there is a marked increase in hospital – acquired infection reported from several hospitals in Saudi Arabia including among hospital staff.

Malaysia has reported the 1st victim in Asia for MERS – CoV (Middle East Respiratory Syndrome – Corona virus) on 20th March 2014. Another case from Manila, Philippines was reported on 15 April 2014 an overseas Filipino health care worker (nurse) who arrived in Manila, from the United Arab Emirates (UAE) was also tested positive for MERS – CoV.

A large number of Sri Lankans travel to Middle Eastern countries for employment daily and on pilgrimages especially during this Haj Umra pilgrim period. Therefore there is a considerable risk for Sri Lanka in importing the disease.

This infection is an acute serious respiratory illness with fever, cough, and shortness of breath and breathing difficulties and generally presents as pneumonia. Many have also had gastrointestinal symptoms including diarrhea and some have kidney failure. According to available evidence **human to human transmission of the infection has been observed although exact mechanism of transmission is not certain. However, sustained community transmission has not been established.**

This virus can be detected by RT PCR and laboratory confirmation facilities are available at the MRI.

The fact sheet and a summary guideline on case management developed along with WHO guidance which had been sent to all your institutions in March 2013 had been updated and posted on the Epidemiology Unit website (www.epid.gov.lk)

Case definition

Confirmed case

A person with laboratory confirmation of infection with the MERS Corona Virus.

Probable case

1. A person with an acute febrile respiratory infection with clinical, radiological, or histopathological evidence of pulmonary parenchymal disease (e.g. pneumonia or Acute Respiratory Distress Syndrome, (ARDS));

AND

No possibility of laboratory confirmation due to unavailability of testing facilities or negative result on a single inadequate sample

AND

Direct epidemiological link * with a laboratory – confirmed case

2. A person with an acute febrile respiratory infection with clinical, radiological, or histopathological evidence of pulmonary parenchymal disease (e.g. pneumonia or Acute Respiratory Distress Syndrome, (ARDS));

AND

Inconclusive laboratory test (a positive screening test without confirmation)

AND

A resident or traveller to Middle Eastern countries where MERS – CoV virus is believed to be circulating in the 14 days before onset of illness.

3. A person with an acute respiratory febrile infection of any severity

AND

Inconclusive laboratory test (a positive screening test without confirmation)

AND

Direct epidemiological link * with a laboratory – confirmed case

*Direct epidemiological link may include:

- Close physical contact
- Working together in close proximity or sharing the same classroom environment
- Travelling together in any kind of conveyance (transportation such as planes and ships)
- Living in the same household

These case definitions are based on WHO revised Interim Case Definitions for Reporting dated 3rd July 2013 and have been circulated to all hospitals.

Anti Viral Therapy

No specific antiviral treatment has been recommended based on currently available evidence on the disease.

Guidance for Laboratory Diagnosis for confirmation of cases

Laboratory confirmation for MERS CoV should be done by Reverse – Transcriptase Polymerase Chain Reaction (RT – PCR) with lower respiratory tract samples i.e. tracheal aspirates, bronco- alveolar lavage, nasopharyngeal aspirate and lung biopsy samples of deceased patients.

All samples for MERS – CoV virology should be transported in a labelled primary container/bag in Viral Transport Media (VTM) with in a secondary container with ICE to MRI. A Specimen transporter with ice packs should be used as a secondary container and ice should not be melted when reaching the laboratory. Sample bottles should be properly secured and non leaking.

Samples should be accompanied with a request form indicating a brief clinical history and personal details of the patient i.e. name, age, sex, address.

When sending postmortem samples a True cut needle biopsy (Through intercostals space) is indicated taken soon after death. Two autopsy samples should be sent in ice with the 1st sample in VTM and the 2nd sample in 70% alcohol.

Note:

- Samples must be taken only from patients that fit into the case definitions given
- Samples can be handed over to MRI 24 hrs of the day throughout the week including weekends.

Antibiotic Therapy

Although the patient may be suspected to have MERS corona virus infection, appropriate empiric antimicrobials should be administered as soon as possible for community-acquired pathogens based on local epidemiology and guidance until the diagnosis is confirmed. Empiric therapy can then be adjusted on the basis of laboratory investigation results.

Fluid management when there is no evidence of shock

Patients with a Severe Acute Respiratory Infections (SARI) should be treated cautiously with intravenous fluid, because aggressive fluid resuscitation may worsen oxygenation, especially in settings where there is limited availability of mechanical ventilation.

Steroid or other adjunctive therapy for viral Pneumonitis

Prolonged use of systemic high – dose corticosteroid can result in serious adverse events in patient with SARI, including opportunistic infection, avascular necrosis, new – health care associated bacterial infection and possibly prolonged viral replication, Therefore, corticosteroids should be avoided unless they are indicated for another reason.

Close monitoring of patients with SARI for signs of clinical deterioration, such as severe respiratory distress/ respiratory failure or tissue hypo perfusion/ shock is essential for timely application of supportive care interventions

Infection control and Waste Management

Droplet precautions should be added to standard precautions for any patients with suspected or confirmed infection with MERS – CoV infection (see below)

These infection prevention and control measures should be started when the patient enters triage with symptoms of acute febrile respiratory illness. Organize the space and process to allow at least 1 meter distance between each patient with acute respiratory infections and other patients or other individuals not wearing Personal Protective Equipment (PPE). Ensure that triage and waiting areas are adequately ventilated. Encourage the use of respiratory hygiene, followed by hand hygiene.

Airborne precautions should be used for aerosol – generating procedures.

Standard precautions

Hand hygiene (i.e. wash hands well with soap and water before and after attending to the patient)

Respiratory hygiene and cough etiquette (i.e. covering the mouth and nose during coughing or sneezing with a medical mask, cloth mask, tissue, sleeve or flexed elbow)

Use PPE

Prevention of needle sticks/sharps injuries

Cleaning and disinfection of the environment and equipment with routine disinfectants

Safe water management

Droplet precautions

Use a medical mask when within < 1m of patient

Maintain a distance of ≥ 1 meter between infectious patient and others

Place patient in a single room or cohort with similar patient

Limit patient environment and ensure that patients wear medical masks when outside their rooms.

Airborne precautions

Ensure that healthcare workers performing aerosol – generating procedures use PPE, including gloves, long sleeved gowns, eye protection and particulate respirators (N95 or equivalent)

Use adequately ventilated rooms when performing aerosol – generating procedures

In addition to standard precautions, all individuals, including visitors, when in close contact (within 1 meter) or upon entering the room/cubicle of patients with probable or confirmed MERS – CoV infection should

Wear a medical mask

Wear eye protection (i.e. goggles or a face shield)

Wear a clean, sterile, long- sleeved gown and gloves

Perform hand hygiene before and after contact with the patient and his/her surroundings and immediately after removal of PPE

In addition, for patients with probable or confirmed MERS – CoV infection:

Avoid movement and transport of patients out of the isolation room or area unless medically necessary. If transport is required, use routes of transport that minimize exposures of staff, other patients and visitors

Inform the receiving area of the patient's diagnosis and necessary precautions to take, as soon as possible before the patient's arrival

Clean and disinfect patient –contact surfaces (e.g. bed) with routine disinfectants after use

Ensure that healthcare workers who transport patients wear appropriate PPE and perform hand hygiene afterwards

Duration of infection control precautions for MERS – CoV infection

The duration of infectivity for MERS – CoV infection is still unknown. While standard precaution should continue to be applied throughout, additional precautions should be taken during the duration of symptomatic illness and continued for 24 hours after the resolution of symptoms.

In the event of a death from MERS – CoV infection

1. Standard, droplet and airborne precautions should be used as relevant when handling deceased individuals from MERS – CoV infection and when preparing bodies for autopsy or transfer to mortuary services.
2. It is advised that proper hand washing with soap and water is done when direct contact with the body occur during funeral proceedings.

Specific recommendations on managing a diseased patient, further information could be obtained from http://www.who.int/csr/disease/coronavirus_infections/en/index.html



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Director General of Health Services
Ministry of Health