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Ministry of Health

Provincial Directors of Health Services,
Regional Directors of Health Services,
Heads/ Directors of Health Institutions,
Directors of National Hospital/Teaching Hospitals/Provincial &
District General Hospitals, Base Hospitals,
All Medical Superintends of other Hospitals,
All Regional Epidemiologists,

Summary Guidelines for Clinical Management of patients with Ebola Virus Disease (EVD) infection

Ebola Virus Disease (formerly known as Ebola haemorrhagic fever) is a severe, often fatal illness, with a death rate of up to 90%. The illness affects humans and nonhuman primates (monkeys, gorillas and chimpanzees) and the disease was first identified in 1976 in two simultaneous outbreaks, one in a village near the Ebola River in the Democratic Republic of Congo, and the other in a remote area of Sudan.

Current Status of the Disease

African countries such as Guinea, Sierra Leone, and Liberia are currently affected and according to the World Health Organization, a cumulative total of 1201 cases (both suspected and confirmed) of Ebola virus disease (EVD) were found in the above mentioned countries and 672 deaths have occurred, as of July 23, 2014. Of the 1201 clinical cases, 814 cases have been laboratory confirmed for Ebola virus infection.

The Infectious Agent

Ebola virus is one of two members of a family of RNA viruses called the Filoviridae. There are five identified subtypes of Ebola virus called Ebola-Zaire, Ebola-Sudan, Ebola-Ivory Coast, Ebola-Bundibugyo and Ebola-Reston. Except Ebola-Reston, the other four subtypes have caused disease in humans (Zaire, Sudan, Ivory Coast and Bundibugyo).

Transmission

Infections with Ebola virus are acute and there is no carrier state in humans. Because the natural reservoir of the virus is unknown, the manner in which the virus first appears in a human at the start of an outbreak has not been clearly determined. However, it is postulated that the infection of human cases with Ebola virus occurs by handling of infected chimpanzees, gorillas and forest antelopes, both dead and alive. The transmission of the Ebola Reston strain through handling of cynomolgus monkeys has also been reported.

After the index case in an outbreak setting is infected, the virus can be transmitted in several ways.

People can be exposed to Ebola virus from direct contact with blood and /or secretions of an infected person. Thus, the virus is often spread through families and friends because they come in close contact with such secretions when caring for infected persons. People can also be exposed to Ebola virus, through contact with objects, such as needles, those have been contaminated with infected secretions.

Burial ceremonies where mourners have direct contact with the body of the deceased person can play a significant role in the transmission of Ebola.

Nosocomial transmission (spread of a disease within a health-care setting) occurs frequently during Ebola HF outbreaks. It includes both types of transmission described above (through direct contact with the blood and or secretions / contact with contaminated objects, such as needles).

While all Ebola virus species have displayed the ability to spread through airborne particles (aerosols) under research conditions, this type of spread has not been documented among humans in a real-world setting, such as a hospital or household

Incubation Period

The incubation period for Ebola HF ranges from 2 to 21 days

Symptoms

The onset of illness is abrupt and is characterized by fever, headache, joint and muscle aches, sore throat and weakness, followed by vomiting, abdominal pain and diarrhoea. A rash, red eyes, hiccups and internal and external bleeding is seen in some patients. Some may also have impaired kidney and liver functions too.

Clinical Diagnosis

Diagnosing Ebola HF during the first few days is difficult because of nonspecific early symptoms, such as red eyes and skin rash. However, if a person has the constellations of symptoms described above with corroborating epidemiological evidence, Ebola virus infection can be suspected.

Laboratory Diagnosis

Tests on samples containing Ebola virus present an extreme biohazard and are only conducted under maximum biological containment conditions. Serology [Antigen-capture enzyme-linked

immunosorbent assay (ELISA) testing, IgM ELISA], Molecular Biology [polymerase chain reaction (PCR)] and virus isolation can be used to diagnose a case of Ebola HF within a few days of the onset of symptoms. Persons tested later in the course of the disease or after recovery can be tested for IgM and IgG antibodies.

The disease can also be diagnosed retrospectively in deceased patients by using immunohistochemistry testing, virus isolation or PCR. A practical diagnostic test that uses tiny samples from patients' skin has been developed to diagnose Ebola HF retrospectively in suspected Ebola HF patients who have died.

Treatment

There is no specific treatment for Ebola HF. Patients receive supportive therapy. This consists of balancing the patient's fluids and electrolytes, blood pressure and treating them symptomatically and treating for any complicating infections.

Prevention

Because the identity and location of the natural reservoir of Ebola virus are unknown, there are few established primary preventive measures.

Containment

- Suspected cases should be isolated from other patients and relevant health authorities (i.e. MoH, Epidemiology Unit and RDHS) should be notified immediately. All hospital staff should be briefed on the nature of the disease and its mode of transmission. Strict barrier nursing techniques should be implemented. Particular emphasis should be placed on ensuring that invasive procedures such as placing of intravenous lines and handling of blood, secretions, catheters and suction devices are carried out under strict barrier nursing conditions. Hospital staff should have individual gowns, gloves, masks, closed resistant shoes (e.g. boots) and goggles etc. Non-disposable protective equipment must be reused only after they have been properly disinfected. Perform hand hygiene before and after direct patient care, after any contact with potentially contaminated surfaces and after removal of PPE. Neglecting to perform hand hygiene after removing PPE will reduce or negate any benefits of the protective equipment.

- Infection may also spread through contact with soiled clothing or bed linen from a patient with Ebola. Protective clothing should be worn when handling soiled linen and soiled linen should be disinfected with an effective disinfectant (e.g. 1% Sodium Hypochlorite Solution) in addition to the normal cleaning procedures. Contaminated surfaces should be disinfected with an effective disinfectant (e.g. 1% Sodium Hypochlorite Solution).

  [Chapter 18 of the Manual on management of Teaching, Provincial, Base and Special hospitals (Ministry of Health, 1995) would be helpful if more information is required]

- Communities affected by Ebola should make efforts to ensure that the population is well informed, both about the nature of the disease itself and about necessary outbreak containment measures, including burial of the deceased.

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Contacts

- Tracing and follow up of people who may have been exposed to Ebola through close contact with patients are essential. As the primary mode of person-to-person transmission is contact with contaminated blood, secretions or body fluids, people who have had close physical contact with patients should be kept under strict surveillance. Their body temperature should be checked twice a day, with immediate hospitalization and strict isolation in the case of onset of fever.

- Hospital staff that come into close contact with patients or contaminated materials without barrier nursing attire must be considered as contacts and followed up accordingly.

- Contact tracing and case finding interviews should be conducted outdoors whenever possible and a distance of more than one metre should be maintained between interviewer and interviewee. Protective equipment is not required if this distance is assured.

- Protective equipment is not required when interviewing asymptomatic individuals

Burial of the deceased

- Post-mortem examination of HF patient remains should be limited to essential evaluations only and should be performed by trained personnel wearing protective equipment.

- Remains should be wrapped in sealed, leak-proof material and should be buried promptly. Only trained personnel should handle the human remains. Personnel handling human remains should wear personal protective clothing.

More details on preventive methods are available from

http://www.who.int/entity/csr/bioriskreduction/interim_recommendations_filovirus.pdf

Dr. P. G. Mahipala,
Director General of Health Services

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Dr. MRS. P. PALIHAWADANA
CHIEF EPIDEMIOLOGIST

Director, Private Health Sector Dev.
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Management in the hospital

a. Provide a disposable/surgical face mask to the patient
b. Ask her to practise hand hygiene
c. Isolation/cohorting - Care for symptomatic patients should be organized in a separate area of the antenatal ward whenever possible
d. Consultant or the clinician of the highest rank (Senior Registrar/Registrar/SHO) should be informed immediately on admission
e. Institutions managing pregnant women should request adequate stocks of Oseltamivir and consider transferring the patients if they need specialized care only. Most of the pregnant women can be managed if Oseltamivir is started early. When indicated Oseltamivir should be started without waiting for laboratory confirmation
f. It should be arranged to make Oseltamivir available within the hospital and/or obstetric and gynaecological wards
g. The antiviral drug is categorized as Class C and is considered safe for use even in the first trimester
h. Non-Steroidal Anti Inflammatory Drugs (NSAIDs) should be avoided

Labour

a. Organize separate areas for labour and delivery for these patients
b. Provide routine intrapartum and postpartum care
c. Provide appropriate interventions where indicated for specific complications related to childbirth, the postpartum/postnatal period or the newborn
d. Tocolytics can be used as for any other obstetric case. However consider potential harms related to tachycardia, hypotension and other side effects
e. Since there is a higher risk of fetal distress, discuss with anaesthesiologist the risks and benefits of vaginal delivery and caesarean delivery. Consider the risks of anaesthesia in a severely ill woman
f. Reduce the length of stay in the postnatal ward to the minimum required by maternal and newborn condition

Newborn care

a. Do not separate the baby from the mother even if the mother has seasonal influenza infection. Institute rooming-in.
b. Mothers should wear a disposable/surgical face mask and practice hand hygiene before feeding or handling the baby
c. Support mothers to initiate breastfeeding within one hour of giving birth and to breastfeed frequently and exclusively on demand. If mother is ill, she should be helped to express her breast milk and feed it to the infant. ***(Treatment with antivirals to a lactating mother is not a contraindication for breastfeeding)***
d. Newborns of infected mothers should be observed for development of infection.
e. Mothers who are breast feeding may continue breastfeeding while ill and receiving oseltamivir.
f. Newborn infants are unlikely to have typical influenza signs. Influenza or its complications in newborn infants may begin with less typical signs such as apnoea, fever, fast breathing, cyanosis, excessive sleeping, lethargy, feeding poorly and dehydration. Newborn infants with severe or deteriorating illness and those at risk of more severe or complicated illness should promptly be treated with antiviral drugs

Maternal Deaths following Seasonal Influenza Infection - please see end of document