IASR

Reporting Criteria for Middle East respiratory syndrome (MERS)

(1) Definition

Acute respiratory syndrome due to infection by Middle East respiratory syndrome coronavirus (MERS-CoV) belonging to the family *Coronaviridae*, genus beta coronavirus.

(2) Clinical characteristics

Close contact with dromedary camels, the natural reservoir of MERS-CoV, is believed to be a risk for infection. Localized person-to-person transmission within households or in medical facilities with insufficient infection control has been reported. Cases have occurred most frequently in the Middle East countries.

Latency is 2-14 days (median 5 days). Acute respiratory distress syndrome (ARDS) is the severest manifestation, though asymptomatic cases occur. Typically, the disease starts with fever and cough, and progresses to pneumonia, which often requires respiratory care. Gastrointestinal manifestations, such as diarrhea, and multiple organ failure (renal failure in particular) and septic shock may occur. The elderly and people with underlying conditions, such as diabetes and renal failure, are at higher risk of severe outcomes.

(3) Reporting criteria

a) "Patients (confirmed cases)"

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician has examined a patient with clinical signs or symptoms as described in (2), has suspected MERS, and has made a diagnosis of MERS based on the detection of at least 2 viral genomic regions of the MERS-CoV using the laboratory method and specimen as described below, the physician shall notify the case immediately.

b) "Asymptomatic infections"

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician has examined an individual without clinical signs or symptoms listed in (2), but has diagnosed that the individual was an asymptomatic infection of MERS based on the results obtained by the laboratory method and specimen as described below, the physician shall notify the case immediately.

c) "Suspected cases"

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician has examined a patient with clinical signs and symptoms as described in (2), suspected MERS infection based on criteria in (4), and has made a diagnosis of MERS-suspected case based on detection of at least one viral genomic region, the physician shall notify the case immediately.

d) "Deceased individual whose death was attributed to MERS"

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician has examined a deceased person with clinical signs and symptoms as described in (2), has suspected MERS infection based on criteria in (4), and has diagnosed that the death was due to

MERS based on the detection of at least 2 viral genomic regions using the laboratory method and specimen as described below, the physician shall notify the case immediately.

e) "Deceased individual whose death was suspected to be due to MERS"

In compliance with Article 12 paragraph 1 of the Infectious Diseases Control Law, if a physician has examined a deceased person with clinical signs and symptoms listed as described in (2), and has suspected that the death was caused by MERS based on criteria in (4), the physician shall notify the case immediately.

Laboratory method	Specimen
Detection of pathogens by isolation and identification	Nasal aspiration fluid, nasal cavity swab fluid, throat swab fluid, sputum, respiratory tract aspiration fluid, alveolar lavage fluid, autopsy specimens
Direct detection of MERS-CoV genome in specimens by PCR	

(4) Conditions for suspecting MERS

When a patients satisfies the conditions a, b and c below, and infections other than MERS cannot be excluded, MERS infection should be included in the differential diagnosis. The differential diagnosis criteria include, but are not limited to, the following

a. Acute respiratory signs or symptoms accompanied by high fever (> 38° C) and cough; clinical or radiological signs suspicious of ARDS and other parenchymal pneumonia, with history of travel or stay in areas where MERS occurrence has been reported by WHO, within 14 days before disease onset.
b. Acute respiratory signs or symptoms with fever (including mild cases) in persons, who, within 14 days before disease onset, had visited medical facilities, had contact(s) with MERS-confirmed case(s) or had close contact with dromedary camels in areas where MERS occurrence has been reported by WHO.
c. Fever or acute respiratory signs or symptoms (including mild cases) in persons who examined or cared for patients who were suspected of MERS, or stayed with MERS-suspected patients, or had directly contact with MERS-suspected case' respiratory tract exudates or other body fluids within 14 days before disease onset.