Clinical Updates: (1) Middle East respiratory syndrome coronavirus (MERS-CoV) (2) Avian influenza A(H7N9) in China

Updated information for NSW clinicians and laboratories

Prepared – 27 May 2013
Minor Update – 25 July 2013

1. **Consider MERS-CoV infection** in patients with acute pneumonia/pneumonitis **AND** a history of travel in the Arabian Peninsula in the previous 10 days.
2. **Consider influenza A(H7N9) infection** in patients with acute pneumonia/pneumonitis **AND** a history of travel in China in the previous 7 days.
3. **Isolate suspect cases** and use standard and airborne transmission precautions.
4. **Contact your local Public Health Unit** (1300 066 055) for a joint risk assessment and to arrange urgent testing where indicated.

Situation Update [New information]

Cases of human infection with these two emerging respiratory pathogens continue to be reported overseas. Clinicians need to be vigilant for possible cases imported into New South Wales. Reports of nosocomial transmission highlight the importance of infection control measures for suspect cases.

(1) Middle East respiratory syndrome coronavirus (MERS-CoV) ([1])

Since April 2013, over 20 new cases have been reported from Saudi Arabia, with most cases linked to a large outbreak within a single health care facility. The case fatality ratio (CFR) approaches 50%. Of note, one of the cases had a negative nasopharyngeal swab result but tested positive after bronchoalveolar lavage.

All clusters reported to date have occurred among family contacts or in a healthcare setting. Human-to-human transmission has been reported but does not appear to be sustained.

Cases have been reported from the following countries in the Middle East: Jordan, Qatar, Saudi Arabia, and the United Arab Emirates. Exported cases have also been detected in the United Kingdom, Germany, France and Tunisia in travellers from the Middle East. In France, Tunisia and the United Kingdom, there has been limited local transmission among close contacts who had not been to the Middle East but had been in close contact with the laboratory-confirmed or probable cases.

(2) Avian influenza A(H7N9) in China

A total of 131 confirmed cases of human infection with avian influenza A(H7N9) virus have been reported since February 2013. Both sexes and a wide range of ages have been affected, but most cases have occurred among middle-aged and older men. Thirty-two people have died (CFR 27%), and most of the other cases are severe.

The outbreak appears to have peaked in April. The decline in May may reflect an impact of control measures, including closure of live bird markets, or it may reflect the seasonal pattern that is seen with avian influenza A(H5N1) and human influenza. The animal reservoir and mode of transmission remains to be fully explained.

Although two family clusters have been reported, there is no evidence of sustained human-to-human transmission, and no indication of international spread apart from one exported case (Taiwan).

WHO reports that the risk of this virus becoming a new pandemic strain is higher than for any other known avian influenza virus.

[1] Previously known as novel coronavirus (NCoV)

Consider MERS-CoV or H7N9 infection in: [As per previous advice]

A person with an acute respiratory infection (which may include fever and cough)

AND suspected pulmonary parenchymal disease (e.g. pneumonia, pneumonitis or ARDS)

AND a history of recent travel to:

(1) The Arabian Peninsula or neighbouring countries within 10 days before onset of illness (for MERS-CoV)
(2) China within 7 days before onset of illness (for H7N9)
OR Close contact of a laboratory-confirmed MERS-CoV or H7N9 case

AND illness not yet explained by any other infection or aetiology.

For a patient who meets these criteria:

- Place in a single room with negative pressure air-handling (if available).
- Use **standard and transmission-based precautions (contact and airborne),** including the use of a P2 (N95) mask, disposable gown, gloves and eye protection when entering a patient care area. **[*revised*]**
- Seek alternative diagnoses – i.e. also investigate for other causes of community-acquired pneumonia.
- Contact your local Public Health Unit promptly on **1300 066 055** for a joint risk assessment and to facilitate urgent testing where indicated.

Testing for MERS-CoV or H7N9

(Also refer to previous testing advice at www.health.nsw.gov.au/infectious/)

- Always liaise with your local laboratory and infectious disease physicians.
- Use appropriate infection control precautions and PPE (as above) when collecting samples for testing.
- Collect nose and throat swabs or a naso-pharyngeal aspirate (NPA) on viral media.

If MERS-CoV is suspected

- The ICPMR Clinical Microbiologist on call (02 9845 6255 during business hours or after-hours through the Westmead Hospital switch 02 9845 5555) should be contacted about the referral.
  Mark the specimens as **URGENT**.

If H7N9 is suspected, test initially for influenza. Refer all unsubtyped influenza A virus samples immediately to either ICPMR or SEALS (Prince of Wales Hospital) for additional H7N9 testing.

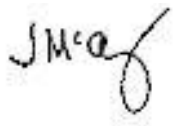
- If nose and throat swabs or NPA are negative, tests should be repeated with deeper respiratory sampling if the patient's condition continues to deteriorate and there is a high level of suspicion of MERS-CoV infection or H7N9 influenza.

Further Information

For detailed local clinical and laboratory advice see **www.health.nsw.gov.au/Infectious/**

For global updates and advice from the World Health Organization (WHO) see:

- WHO novel coronavirus: **www.who.int/csr/disease/coronavirus_infections/en**
- WHO avian influenza A(H7N9): **www.who.int/influenza/human_animal_interface/influenza_h7n9/en/**



Dr Jeremy McAnulty

Director, Health Protection NSW

[Check for more recent updates at www.health.nsw.gov.au/infectious]