



RAPID RISK ASSESSMENT

Human fatality from highly pathogenic avian influenza A(H5N1) virus infection in Guangdong province, China

4 January 2012

Main conclusions and recommendations

China has reported a single case of highly pathogenic avian influenza A(H5N1) virus infection in Guangdong province. This case is not part of a cluster. The initial sequence analysis of the virus genome indicates that the virus is genetically closely related to influenza A(H5N1) viruses recently detected in wild birds in Hong Kong, and therefore it is more likely that the infection is of avian than human origin.

This new human case is not unexpected. In countries where avian influenza A(H5N1) virus is entrenched in bird populations and affecting poultry, sporadic infections are likely to continue to occur among exposed humans, occasionally resulting in small clusters of human cases.

The report of a single fatal human case in Guangdong province, China, does not change the current assessment of risk to human health in the EU or globally from wild-type A(H5N1). The risk is considered to be very low in EU/EEA countries. However, vigilance for avian influenza A(H5N1) and other animal influenza viruses in domestic and wild animals in Europe remains important.

Public health issue

A human fatality due to highly pathogenic avian influenza A(H5N1) virus infection in Guangdong province, China and whether this case is indicative of increased human-to-human transmission of wild-type A(H5N1) viruses.

Source of assessment request

Request from the European Commission, Directorate-General for Health and Consumers received on 3 January 2012.

Disease and other relevant background information

Please refer to the previous publications:

Rapid Risk Assessment: Potential resurgence of highly pathogenic H5N1 avian influenza, September 2011, available from

http://www.ecdc.europa.eu/en/publications/Publications/1109_TER_risk_assessment_H5N1_bird_flu_resurgence.pdf [1]

ECDC Review: (Yet) another human A/H5N1 influenza case and cluster – when should Europe be concerned? Eurosurveillance 2008; Volume 13, Issue 15, 10 April 2008

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18833> [2]

ECDC Risk Assessment: The public health risk from highly pathogenic avian influenza viruses emerging in Europe with specific reference to type A/H5N1, version 1 June 2006

http://ecdc.europa.eu/en/publications/Publications/0606_TER_The_Public_Health_Risk_from_Highly_Pathogenic_Avian_Influenza_Viruses_Emerging_in_Europe.pdf [3]

Event background information

The Chinese health authorities have reported one fatality following infection with highly pathogenic avian influenza (HPAI) A(H5N1) virus. The case is a 39-year-old male bus driver who lived and worked in the city of Shenzhen in southern China's Guangdong province, immediately north of Hong Kong SAR. He developed symptoms on 21 December 2011, was admitted to the hospital four days later and died of multiple organ failure on 31 December [4,5]. He reportedly had no relevant travel history, nor known close contact with poultry or wild birds, environmental exposure or contact with infected persons prior to onset of symptoms.

The gene sequencing analysis has revealed that the influenza A(H5) virus detected in this case belongs to clade 2.3.2.1 and is very similar to those viruses from the wild birds recently detected in Hong Kong (A/Guangdong-Shenzhen/1/2011HA gene segment accession nr. EPI347304 and personal communication).

No avian influenza A(H5N1) virus infection outbreak in animals was reported in Guangdong province in 2011. In neighbouring Hong Kong SAR, where surveillance for A(H5N1) viruses is especially intense, one dead chicken and two dead wild birds were diagnosed with A(H5N1) virus infections in December 2011 [6].

This case is the first human case of HPAI A(H5N1) virus infection reported in China in 2011. Since 2003, China has reported 40 confirmed human cases resulting in 26 fatalities [7].

ECDC threat assessment for the EU

This case of HPAI A(H5N1) virus infection reported in China does not indicate a change in the risk for human-to-human transmission for the following reasons:

- It is a single isolated case, not part of a cluster.
- It occurred in a country where avian influenza is entrenched.
- No contact with sick patients has been reported.
- The identified clade suggests transmission from birds.

Conclusions

This new human case is not unexpected. In countries where avian influenza A(H5N1) viruses are entrenched in wild bird populations and are occasionally transmitted to domestic poultry, sporadic infections and even small clusters will probably continue to occur among humans who have contact with infected poultry or wild birds. Human-to-human transmission cannot be completely ruled out even in this case but there is no evidence of human-to-human transmission here or elsewhere.

The recent report of a single human case of a wild-type influenza A(H5N1) virus infection in Shenzhen city, Guangdong province, China, does not change the current assessment of the risk to human health in the EU or globally. The risk is considered to be very low in EU/EEA countries. However, vigilance for avian influenza A(H5N1) in domestic poultry and wild birds and other animal influenza in Europe and elsewhere remains important.

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References

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2. Nicoll A. (Yet) another human A/H5N1 influenza case and cluster – when should Europe be concerned?. Euro Surveill. 2008;13(15):pii=18833. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18833> [Accessed on 03 January 2012]
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6. World Organisation for Animal Health, World Animal Health Information Database (WAHID). Available at <http://web.oie.int/wahis/public.php?page=home> [Accessed on 03 January 2012]
7. World Health Organization. Cumulative number of confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003-2011. 15 December 2011. Available from: http://www.who.int/influenza/human_animal_interface/EN_GIP_20111215CumulativeNumberH5N1cases.pdf [Accessed on 03 January 2012]