衞生防護中心
Centre for Health Protection

Scientific Committee on Emerging and Zoonotic Diseases

Recommendation on Control of the Risk of Transmission of Avian Influenza to Humans in the Long Term

Human infections with avian influenza A(H7N9) emerged in early 2013 and resulted in severe illness. Four distinct waves of human infection have occurred with clustering of cases in winter and spring months. Globally, as of 30 June 2016, 790 cases of human H7N9 infection have been reported. The case fatality rate was about 40%. Apart from H7N9, 14 human cases of avian influenza A(H5N6) (with seven deaths) have been reported to the World Health Organization (WHO) since May 2014 and all occurred in Mainland China (as of 30 June 2016).

2. Most human cases acquired avian influenza infection through contact with infected poultry or contaminated environments, including live poultry markets (LPM).[1] Many studies have shown that exposure to LPM is a major risk factor associated with human H7N9 infections. Whenever avian influenza viruses are circulating in poultry, human infections are possible through exposure to infected poultry or contaminated environments.

3. In the local scenario, a study carried out between 2013 and 2014 revealed serological evidence of subclinical human infections of avian influenza viruses especially A(H5N1) and A(H9N2) viruses among LPM workers in Hong Kong *in the absence of any detected avian influenza outbreaks among poultry*.[2]

[1] WHO. Influenza at the human-animal interface - Summary and assessment, 9 May to 13 June 2016 (available from: http://www.who.int/influenza/human_animal_interface/Influenza_Summary_IRA_HA_interface_06_13_2016.pdf?ua=1)

[2] To KK, Hung IF, Lui YM, et al. Ongoing transmission of avian influenza A viruses in Hong Kong despite very comprehensive poultry control measures: A prospective seroepidemiology study. J Infect. 2016 Feb;72(2):207-13.

4. Surveillance programmes and studies have found that H7N9 viruses have become enzootic among poultry in some parts of Mainland China and are unlikely to be eradicated. It is foreseeable that sporadic human H7N9 infections will continue to occur from time to time. The spread of H7N9 viruses within poultry is primarily via the live poultry trade. Unlike highly pathogenic avian influenza viruses such as A(H5N1), poultry infected by H7N9 may not display any symptoms and signs and may remain undetected. As such, the risk of importation of infected poultry into Hong Kong causing local human infections remains a possibility.

5. A systemic review of international literature on interventions in LPM for the control of avian influenza revealed that the length of stay of poultry in the markets is a critical control point to interrupt the replication cycle of avian influenza viruses in LPM. This review provided supportive evidence on permanent closure of LPM as a long-term objective to reduce the zoonotic risk of avian influenza.[3]

6. In view of the situation of human infections with H7N9 and H5N6 viruses in Mainland China, the epidemiological findings and risk assessment, the Committee is of the opinion that LPM continue to pose the risk of human infections with avian influenza viruses. **The Committee recommends the eventual cessation of the sale of live poultry in retail markets in Hong Kong to control the risk of transmission of avian influenza to human.**

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[3] Vittoria Offeddu, Benjamin J. Cowling, J.S. Malik Peiris. Interventions in live poultry markets for the control of avian influenza: A systematic review. One Health 2 (2016) 55–64.