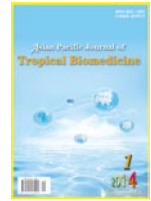


Asian Pacific Journal of Tropical Biomedicine

journal homepage: www.apjtb.com



Document heading

doi:10.12980/APJTB.4.2014C1202

© 2014 by the Asian Pacific Journal of Tropical Biomedicine. All rights reserved.

Human H5N2 bird flu infection: fact or fallacy?

Beuy Joob^{1*}, Viroj Wiwanitkit^{2,3,4}¹Sanitation 1 Medical Academic Center, Bangkok, Thailand²Hainan Medical University, Haikou, China³Faculty of Medicine, University of Nis, Nis, Serbia⁴Joseph Ayobabalola University, Ikeji-Arakeji, Osun state, Nigeria

To the editor,

Several emerging of the new bird flu infections within the past few years lead a great concern to the medical society. The greatest consideration at present is on H7N9 bird flu[1]. There are also other human bird flu to be concerned including H1N1 and H7N7 bird flu. However, there is an interesting bird flu, H5N2, that should be discussed for its infection in human beings. H5N2 influenza virus is a well-known virus that can cause infection in avian. This virus can cause outbreak in avian and can also be isolated from asymptomatic avian[2]. The human H5N2 bird flu is a controversial issue. Whether the H5N2 bird flu virus can cause the disease in human being or not requires further extensive study. The first report on the observation of H5N2 bird flu in human beings is from Japan. In 2005, a large H5N2 avian influenza outbreak among chicken occurred in Ibaraki, Japan[3]. After this outbreak, there are some reports on the possibility of human H5N2 influenza virus infection. The seropositivity of the workers working in the farms that H5N2 outbreak in avian was reported[4]. Yamazaki *et al.* performed a serological survey of avian H5N2-subtype influenza virus infections among poultry workers and found that seropositivity was significantly associated with age[4]. A similar observation was also reported by Ogata *et al.*[5]. Nevertheless, there was no influenza symptom among the seropositive case[4,5]. Yamazaki *et al.* noted that this might be the first evidence of human infection[4]. However, Ogata *et al.* raised an important concern that “a history of seasonal influenza vaccination might be associated with H5N2-neutralizing antibody positivity”[5]. Also, Yamazaki *et al.* found that administration of oseltamivir might also affect the result of immunological test[6]. After that, there are some reports on the seropositivity in human beings and possible relations to some clinical features such as conjunctivitis[7,8]. The most recent report was from Nigeria in 2013[7]. Okoye *et al.* reported the seropositivity among both animal-exposed and non animal-exposed subjects and proposed for “occasional virus transmission to humans”[7]. However, there are still no confirmation when a systemic epidemiology investigation is applied[8]. Nevertheless, the cross species infection from avian to mammal of H5N2 virus has already been confirmed in pigs

and the possibility for further genetic reassortment to cause new H5N2 virus that might be highly virulent to human beings is also proposed[9]. It is no doubt that the special concern and appropriate surveillance on the possible emerging human H5N2 bird flu is needed.

Conflict of interest statement

We declare that we have no conflict of interest.

References

- [1] Wiwanitkit V. H7N9 Influenza: the emerging infectious disease. *N Am J Med Sci* 2013; **5**(7): 395–398.
- [2] Wood JM, Webster RG, Nettles VF. Host range of A/Chicken/Pennsylvania/83 (H5N2) influenza virus. *Avian Dis* 1985; **29**(1): 198–207.
- [3] Okamoto M, Saito T, Yamamoto Y, Mase M, Tsuduku S, Nakamura K, *et al.* Low pathogenicity H5N2 avian influenza outbreak in Japan during the 2005–2006. *Vet Microbiol* 2007; **124**(1–2): 35–46.
- [4] Yamazaki Y, Doy M, Okabe N, Yasui Y, Nakashima K, Fujieda T, *et al.* Serological survey of avian H5N2-subtype influenza virus infections in human populations. *Arch Virol* 2009; **154**(3): 421–427.
- [5] Ogata T, Yamazaki Y, Okabe N, Nakamura Y, Tashiro M, Nagata N, *et al.* Human H5N2 avian influenza infection in Japan and the factors associated with high H5N2-neutralizing antibody titer. *J Epidemiol* 2008; **18**(4): 160–166.
- [6] Yamazaki Y, Doy M, Yamato S, Kawada Y, Ogata T. Effects of oseltamivir phosphate (Tamiflu) in human sera on results of microneutralization and hemagglutinin-inhibition tests for H5N2 avian influenza virus. *Arch Virol* 2008; **153**(5): 945–949.
- [7] Okoye J, Eze D, Krueger WS, Heil GL, Friary JA, Gray GC. Serologic evidence of avian influenza virus infections among Nigerian agricultural workers. *J Med Virol* 2013; **85**(4): 670–676.
- [8] Chan YJ. The threat of highly pathogenic avian influenza H5: will H5N2 infections occur in humans? *J Chin Med Assoc* 2012; **75**(8): 420–421.
- [9] Lee JH, Pascua PN, Song MS, Baek YH, Kim CJ, Choi HW, *et al.* Isolation and genetic characterization of H5N2 influenza viruses from pigs in Korea. *J Virol* 2009; **83**(9): 4205–4215.

*Corresponding author: Beuy Joob, Sanitation 1 Medical Academic Center, Bangkok Thailand.

E-mail: beuyjoob@hotmail.com

Article history:

Received 10 Jan 2014

Received in revised form 15 Jan, 2nd revised form 16 Jan, 3rd revised form 20 Jan 2014

Accepted 16 Feb 2014

Available online 28 Mar 2014