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BIRD FLU VIRUS: A BIG CHALLENGE TO AFRICA

Clement O. Adewunmi and John A. O. Ojewole*

Drug Research and Production Unit, Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Nigeria, and *Department of Pharmacology, Faculty of Health Sciences, University of KwaZulu-Natal, Private Bag X54001, Durban 4000, South Africa

E-Mail: cadewunmi@yahoo.com *ojewolej@ukzn.ac.za

“Avian influenza” or “fowl plague” was first recognised in chickens in 1878, and the pathogenic agent was characterised by Schafer in 1955. Influenza viruses are classified into either type A, B or C, depending on the antigenic differences of their nucleal matrix proteins, while Avian Influenza Viruses (AIV) belong to type A (Sidoronko and Reichl, 2005). Avian influenza viruses generally show the highest affinities for alpha 2-3 linked sialic acid-dominated receptor type in epithelial tissues of gut and lung in those birds that are targeted by the viruses (Gambaryan et al., 2005; Kim et al., 2005). In contrast, human-adapted influenza viruses primarily access 2-6 linked residues, which predominate on non-ciliated epithelial cells of the human airways. These receptor predilections, therefore, define part of a species barrier, thus preventing hassle-free transmission of avian viruses to humans (Suzuki et al., 2000; Suzuki, 2005).

Avian viral infection depends on faeco-oral transmission chains. In contrast, transmission of influenza virus infections in humans, swine and horses is by aerosols. Influenza A viruses of the H5 and H7 subtypes are causative agents of the highly pathogenic forms of avian influenza. Fortunately, only a few representatives of the H5 and H7 viral subtypes display a highly pathogenic biotype – HPAIV (Swayne and Suarez, 2000). Sadly enough, HPAIV, especially the Asian lineage H5N1, have been shown to be capable of infecting humans and other mammals (WHO, 2006a).

The clinical manifestations of avian influenza vary in birds, and the symptoms of the flu are fairly unspecific. The severity of the disease in birds is depended upon the characteristics of the isolate, the dose of inoculum, the species, and age of the bird after incubation period of a few days (Elbers, 2005). In Africa, H5N1 ‘bird flu’ outbreak has been reported in Nigeria, Egypt, Niger, and the Cameroon. In Nigeria, out- break of the

avian flu has been reported in Kaduna, Kano, Plateau, Yobe, Federal Capital territories, Zamfara and Nasarawa States.

For effective control of the disease, the following measures have been recommended: (i) control and surveillance areas should be erected around outbreak zones with diameters varying between 1 and 5 km; (ii) rapid culling of all infected and/or exposed birds, and proper disposal of carcasses, quarantining of infected and contact farms; (iii) restriction of the movements of live poultry and poultry products, both within and between countries; (iv) culling of acutely ill chickens; and (v) vaccination of birds where applicable.

Other diseases of birds (such as infectious laryngotracheitis, velogenic Newcastle disease, duck plague, acute fowl cholera, bacterial cellulitis of the comb and wattles), must be considered in differential diagnosis of HPAIV by the Veterinarian. Rapid laboratory diagnosis is important together with the observance of safety standards to avoid exposure of sample collectors to potentially hazardous HPAIV (Bridges, 2002). Biosecurity measures that would isolate large poultry holdings, effectively prevent transmission from farm to farm by mechanical means, e.g. by contaminated equipment, vehicles, feed, cages, or clothing, should be strictly adhered to by all.

In most parts of Africa, backyard holdings of free roaming poultry prevail. In rural areas with traditional forms of poultry holdings where chickens and ducks roam freely and mingle with wild birds and/or share water sources with them, it may be problematic to implement control measures enumerated above. Governments and communities should enforce the stoppage of free range practice. Communities should set up bird flu awareness groups and control committees (an example is the Obafemi Awolowo University/Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Avian Flu Committee) which has the mandate to sensitize the university community to the health, socio-economic and environmental implications of the disease. This is not the time for rhetoric, i.e., blaming governments or poultry farmers. Fortunately, 12 countries in Africa (Benin, Cape Verde, Cote d'Ivoire, Gambia, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Nigeria, Senegal and Togo) have agreed to create a joint intervention and surveillance venture to fight bird flu virus in the region. These countries have also called on the international community to back this initiative against bird flu in the region. A heart warming major meeting on the avian influenza situation in Africa was held in Gabon from 20-22 March, 2006. The meeting gave a "firm political commitment at the highest level of government, to ensure multi-sectoral coordination at supra-ministerial level for the development of plans, mobilization of resources, and the implementation and monitoring of plans in close collaboration with community-based organizations, civil societies, non-governmental organizations and other sectors" (WHO,2006b - <http://www.afro.who.int/press/2006/pr20060322.html>).

The Governments of African States should, as a matter of urgency, put in place, a simple, effective strategy for the prevention and control of bird flu. This should be done in collaboration of the Food and Agricultural Organization, World Health Organization, and other International Agencies to prevent the looming catastrophic potential of bird flu ravaging the African continent. Now is the time to act!

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