Bird Flu

Introduction:

Bird flu, is a contagious disease caused by avian (bird) influenza virus. It is commonly seen in birds, but on rare occasions, can infect humans. There are 15 types of bird flu viral strains. The most contagious strains are H5 and H7. The type currently causing concern is the deadly strain H5N1. The widespread persistence of H5N1 in poultry populations poses risks for human health.

Implications for human health:

Of the few bird flu viruses that have infected humans, H5N1 has caused the largest number of cases of severe disease and death in humans. The disease caused by H5N1 follows an unusually aggressive clinical course, with rapid deterioration and high fatality. In the present outbreak, more than half of those infected with the virus have died. Most cases have occurred in previously healthy children and young adults. In the current outbreak, laboratory-confirmed human cases have been reported in four countries: Cambodia, Indonesia, Thailand, and Vietnam.

Mode of spread:

Direct contact with infected poultry, or surfaces and objects contaminated by their faeces, is presently considered the main route of human infection. Though more than 100 human cases have occurred in the current outbreak, this is a small number compared with the huge number of birds affected and the numerous associated opportunities for human exposure, especially in areas where backyard flocks are common. It is not presently understood why some people, and not others, become infected following similar exposures. The virus does not seem to spread easily from birds to humans. However there are chances that the virus may change into a form that is highly infectious for humans and may spread easily from person to person. Such a change could lead to a global outbreak (a pandemic). It is estimated that up to 50,000 Britons could die if bird flu mutates to a form easily passed between humans.

Clinical Course:

Bird flu usually present with muscle aches, fever, sore throat, and cough. Some patients may subsequently develop pneumonia, acute respiratory distress syndrome and other severe and life-threatening complications including multi-organ failure, which may be associated with over 50% mortality.

Treatment:

There is no vaccine for prevention of bird flu. Oseltamivir (Tamiflu) and Zanamivir (Relenza) can reduce the severity and duration of illness caused by influenza. So far, most fatal pneumonia seen in cases of H5N1 infection has resulted from the effects of the virus, and cannot be treated with antibiotics. Nonetheless, since influenza is often complicated by secondary bacterial infection of the lungs, antibiotics could be life saving in the setting of pneumonia.

Extracorporeal membrane oxygenation (ECMO) in respiratory failure due to bird flu:

Although there have not yet been any reported cases of H5N1 pneumonia being treated with ECMO, our experience of treating other forms of severe pneumonia (including viral pneumonias) with survival rate of more than 70%, suggest that ECMO may be a useful adjunct in the management of this condition. Please contact the ECMO team at Glenfield hospital, Leicester (01162871471 or 07984 740 111), for further information or to refer any potential patient. Any referral of an adult patient (18-65 years) with H5N1 pneumonia will be within the framework of the CESAR Trial (www.cesar-trial.org) . Children, however, can be referred directly for ECMO. Adults >65 years can also be referred directly but are rarely suitable for ECMO treatment. Please see the UHL Glenfield Hospital web site for further information about ECMO (www.uhl-tr.nhs.uk).

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For further information about CESAR see www.cesar-trial.org