Incursion of H5N1 'Asian lineage virus' into Europe: source of introduction?

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In October 2005 the first reported outbreak of H5N1 high pathogenic avian influenza of 'Asian' lineage occurred in a turkey flock in Turkey. Although this outbreak in located in eastern Turkey was dealt swiftly using movement restrictions and depopulation, it heralded the detection of this virus in at least 25 European countries between October 2005 and May 2006 (at the time of writing). The majority of these reports involved the detection or isolation of virus from wild birds that were found dead. In addition, there were a number of incursions into poultry populations.

Molecular epidemiology based on sequence analyses of the haemagglutinin gene revealed high homogeneity amongst all these viruses which were also very closely related to the viruses present in eastern and central Asian (i.e. Siberia, Mongolia and Qinghai lake). One mechanism of virus spread to Europe was by migratory wild birds that were found positive in many countries with no associated outbreaks in poultry. Some, but not all of these reports may relate to movement of birds due to adverse weather in eastern Europe.

Further infection of wild birds through exposure to infected 'backyard' poultry in eastern Europe appears probable. Conventional spread and introduction resulting from the movement, legal or illegal, of poultry and poultry products would also appear to be a key factor. An up to date analysis of the epidemic in Europe will be presented.

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