

Implications for surveillance in wild birds and poultry following incursion of H5N8 HPAI in Europe

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Purpose:

During late 2014 outbreaks of H5N8 HPAI occurred in poultry farms in Europe in multiple countries and poultry species. Infection was also found in apparently healthy wild ducks in Germany and the Netherlands. Although this incursion could superficially resemble that of H5N1 HPAI almost a decade earlier there are diagnostic and epidemiological features that are different with important implications for surveillance.

Methods:

We evaluated the pattern of detection of this virus across Europe with regard to active and scanning surveillance in wild birds and poultry. We also evaluated the haemagglutination inhibition serological test for the detection of antibodies to this lineage of HPAI 2.3.4.4 with regard to other H5 lineages found in Europe.

Results:

An apparent lack of severe clinical disease in ducks in the UK suggests that scanning surveillance may have very low sensitivity in this species. Haemagglutination inhibition testing of sera from ducks on the holding infected in the UK with standard EU-recommended antigens suggested much lower sensitivity than when the homologous antigen was used. In addition to finding this virus in apparently healthy wild birds of various species in Europe and Asia there are also animal experiments indicating that H5N8 HPAI may have a low virulence in some wild bird species.

Conclusions:

The lineage 2.3.4.4 H5 HPAI virus shows different epidemiological patterns to other HPAI viruses, in particular H5N1 Asian lineage virus, and hence surveillance activities may require modification to maintain optimum sensitivity and efficiency.

Relevance:

These findings are of relevance since the legislatively required surveillance in wild birds in the EU is aimed at detection of H5N1 HPAI and only required to be conducted in birds found dead or ill. Also scanning surveillance may be less sensitive in poultry, particularly domestic waterfowl, than for other HPAI viruses placing greater weight on active serological surveillance.