



Clinical Signs and Gross Lesions observed in the first five outbreaks preceding the detection of Avian Influenza H7N7 in the Netherlands in 2003

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Introduction

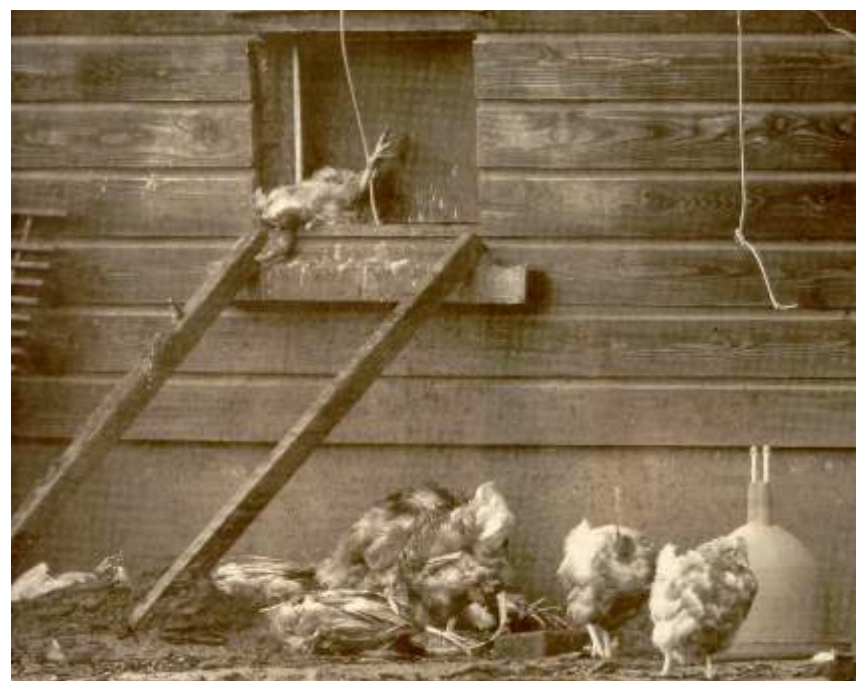
- High-pathogenic Avian Influenza (HPAI) last seen in Netherlands in 1927.
- Low-pathogenic (LPAI) outbreaks in USA and Italy, and HPAI outbreak in Chile in 2002.
- Possibility of mutation of H5 and H7 AI subtype from LPAI to HPAI.
- In European Union, LPAI monitoring in poultry was to be started in 2003.
- Netherlands struck by HPAI of subtype H7N7 epidemic end of Febr. 2003.

Chronology

- **22 Febr:** decrease in feed and water intake in flock **NL02**.
- **23 Febr:** further decrease in feed and water intake and increased mortality in flock **NL02**.
- **24 Febr:** sharp increase mortality in flock **NL02**; clinical visit by technician; 7 dead birds sent for Post-Mortem Examination (PME) at AHS: 5 birds with peritonitis, 2 birds with slight tracheitis; preliminary diagnosis: *E. coli*.
- Farmer of flock **NL03** observes increased mortality in poultry.
- **25 Febr:** *E. coli* in flock **NL02** confirmed, ND test negative; poultry prescribed OTC; in flock **NL03** increased mortality, vet visits flock (hemorrhagic and red-inflamed trachea observed), preliminary diagnosis: Infectious Larynchotracheitis (ILT), however, no dead birds sent to PME for definite diagnosis!
- **26 Febr:** dead birds of flock **NL02** and flock **NL04** arrive at PME; preliminary diagnosis: peritonitis caused by *Salmonella gallinarum*; no *S. gallinarum* cultured, birds medicated at time of sampling.
- increase in mortality and decrease in feed intake observed by farmer in flock **NL05**.
- **27 Febr:** direct culture for *Salmonellae* still negative; in afternoon dead birds submitted from flock **NL01** and flock **NL03**, with anamnesis: acute mortality and decrease in feed intake; preliminary diagnosis: peritonitis, suspicion of *E. coli*; on that day, mortality (50%) in flock **NL05** is dramatic, Flumequine is added to drinking water as a therapy.
- **28 Febr:** cultures for *S. gallinarum* still negative; to exclude other possible causes, samples of trachea, spleen and liver of flocks **NL02** and **NL01** tested at AHS on ND and AI with immunofluorescence test. Report by telephone of veterinary poultry specialist of AHS visiting flock **NL01** and **NL02** of a dramatic clinical situation in the afternoon, coincides with a positive IFT for AI from samples of both flocks. Veterinary authorities are notified of a strong suspicion of an AI-outbreak.



source: Agrarisch Dagblad



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Discussion

- Atypical clinical signs described in literature were comparable with those observed in 5 outbreaks.
- Pathological lesions observed in 5 outbreaks did not comply with descriptions in literature: lack of hemorrhagic changes in tissues and lack of edema and cyanosis in comb and wattles main reason why it took 5 days from first entry of post-mortem material to report suspicion of AI.
- Intensive contact between veterinarian in the field and veterinarian performing PME is much needed to have all relevant data and clinical developments at ones disposal
- Mutual communication needed to redirect PME and lab investigations.
- Threshold to submit animals for PME or to ask for a farm visit should be low.

Conclusions

There is a strong need for

- 1) centralized reporting system for increased mortality and significant decrease in feed and water intake.
- 2) LPAI monitoring in commercial poultry.
- 3) IF PME does not give indications for AI suspicion, but there is an anamnesis with increased mortality and/or decrease in feed/water intake, one needs to exclude AI by PCR or VI.

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