

1971). Transfer of virus is more likely to occur in situations of high humidity. Virus can be recovered from nasal swabs of the people exposed to affected pigs 24 hours previously.

FMD virus excretion in breath occurs before the appearance of lesions in affected species and can peak in bovine breath before lesions appear. Veterinary staff closely examining the tongues of such lesion-free cattle on what appear to be uninfected premises can inhale moist bovine breath containing virus. FMD virus might remain in the liquid film lining the respiratory system and in lung residual air. They can be struggling to closely examine the tongues of cattle on a second farm, within a foot of their nostrils, within an hour of leaving the (in fact) infected first premises.

I have made the case for veterinary staff to wear effective face masks in such situations in submissions to the Northumberland, Anderson and Royal Society Inquiries and on other occasions. Spread of FMD by people ('veterinary surgeons six, other persons four') is recorded in the 1967/68 epizootic (Northumberland Report 1969), but not the mechanism of spread. Presumably, there is no evidence of spread by the human respiratory route occurring in the field, and the authorities are confident that it could not occur in any field situation, otherwise they would have introduced changes to procedure at some point during the past 40 years. Neither could they have considered it prudent to introduce practice indicated by extrapolation of the research findings, nor to pursue the line of research recorded in 1971 if they considered the findings inconclusive. Policy has been unwavering for 40 years.

However, DEFRA currently recommend the wearing of face masks by farmers visiting farms during an FMD epizootic. 'If you do visit other farms wear a face mask if possible, as FMD virus can be carried in human throats' (sic) (DEFRA 2007). It is not clear why the recommendation applies to farmers only, nor why the recommendation is not a rule. Clarification is essential because we are dealing with a virus that could bankrupt the UK farm livestock industry.

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References

- DEFRA (2007) Foot and Mouth Disease – Advice to Farmers. Fact Sheet 2. Biosecurity – Preventing the Spread of Foot and Mouth Disease. London, DEFRA
- NORTHUMBERLAND REPORT (1969) Report of the Inquiry on Foot and Mouth Disease 1968. London, Her Majesty's Stationery Office
- SELLERS, R. F., HERNIMAN, K. A. J. & MANN, J. A. (1971) Transfer of foot-and-mouth-disease virus in the nose of man from infected to non-infected animals. *Veterinary Record* **89**, 447-449

Treatment of histomonosis in turkeys with tiamulin

SIR,—Since the withdrawal of products such as the nitroimidazoles (dimetridazole), there has been no medication available in the UK to treat histomonosis (blackhead) in turkeys, caused by *Histomonas meleagridis*. As a result, there has been a major therapeutic gap, which has caused severe health and welfare problems in affected flocks, on occasions resulting in their slaughter. We would like to inform colleagues of a case that was successfully treated with the pleuromutilin antibiotic tiamulin (Denagard; Novartis Animal Health).

In this case, the farm had six sheds of turkeys holding between 600 to 1200 birds. The shed where the affected birds were housed, somewhat surprisingly, was concrete-floored and straw-bedded, as birds are more likely to come into contact with infected *Heterakis gallinarum* eggs or earthworms on soil. At about 13 weeks of age, the birds appeared hunched, depressed and the mortality had started to increase. Amoxicillin (Amoxinsol; Vétocin) was originally given for three days at 20 mg/kg bodyweight, but as there was no reduction in mortality birds were sent to the Veterinary Laboratories Agency (VLA) – Winchester, for postmortem examination. This confirmed the presence of lesions typical of histomonosis: multiple pale circular lesions on the liver and grossly dilated caecae with necrotic caseous debris in the lumen (Fig 1). Likely histomonad organisms were identified on caecal wet smears.

The veterinarian had previously used tiamulin to treat a commercial free-range layer flock with suspected histomonosis with moderate success. After advice, he treated the turkeys with tiamulin via the drinking water for five days at 25 mg/kg bodyweight. The mortality fell rapidly (Fig 2), from approximately 12 to 13 birds/day to three to four birds/day and subsequently back to normal.

Tiamulin is primarily an antibacterial and antimycoplasmal antibiotic and is not normally associated with the treatment of protozoal disease. However, an inhibitory



FIG 1: Inflamed caecum with caseous necrotic material and typical circular liver lesions

effect against *Eimeria tenella* and *Eimeria acervulina* in chickens has been reported (Cruthers and others 1980), when given in the drinking water at 0.025 per cent for seven days (two days before and five days after receiving a mixed challenge infection). Tiamulin is known to be effective for the treatment of caecal infections caused by *Brachyspira pilosicoli* in layers (Burch and others 2006) and also to concentrate in the liver of turkeys at very high levels (EMEA 2000), where it is primarily metabolised.

In the absence of any approved medicine for the treatment of histomonosis in turkeys, tiamulin might possibly offer a therapy for use under the current cascade guidelines.

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References

- BURCH, D. G. S., HARDING, C., ALVAREZ, R. & VALKS, M. (2006) Treatment of a field case of avian intestinal spirochaetosis caused by *Brachyspira pilosicoli* with tiamulin. *Avian Pathology* **35**, 211-216
- CRUTHERS, L. R., HATCHKIN, H. D., SARRA, L. J., PERRY, D. D. & LINKENHEIMER, W. H. (1980) Efficacy of tiamulin against an experimental infection of broilers with *Eimeria acervulina* and *Eimeria tenella*. *Avian Diseases* **24**, 241-246
- EMEA (2000) Committee for Veterinary Medicinal Products. Tiamulin – Summary Report (3). EMEA/MRL/747/00-FINAL, July 2000. www.emea.europa.eu/pdfs/vet/mrls/074700en.pdf. Accessed December 11, 2007

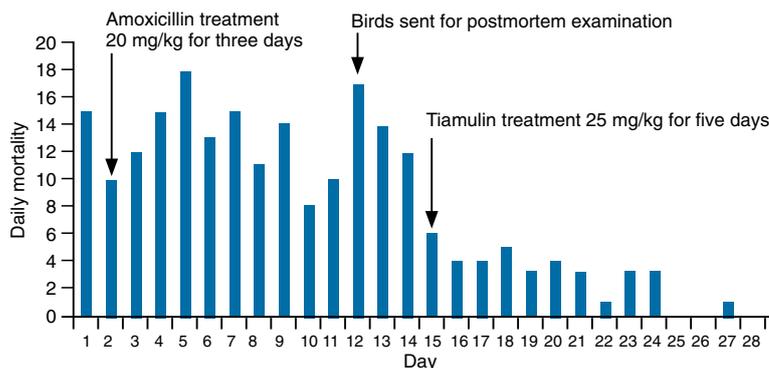


FIG 2: Flock daily mortality pattern and response to treatment with tiamulin

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