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NATURAL SPONGIFORM ENCEPHALOPATHY IN A DOMESTIC CAT

1. We have heard from MAFF that a domestic Siamese cat from the Bristol area has had spongiform encephalopathy confirmed. Although there are previous instances of experimental infection in cats, there have been no previous natural infections reported. The assumption must be the cat became infected by scrapie/BSE agent in its food.
2. Background briefing on BSE is provided in the annex.
3. First thoughts are that this new information does not affect our views on the lack of hazard of BSE to man. Although humans are in close contact with cats, these disorders are not spread by intimate contact. However, the implications of this new information needs to be considered by the full Tyrrell Committee.
4. Concerns for MAFF include:
 - * BSE has spread to yet another species: how many more?
 - * Whether it should still be permissible to include offal in pet food.
 - * Renewed pressure to ban the feeding of processed sheep and cow offal to pigs and poultry.
 - * Could there be spread between cats or to other species from cats?
5. MAFF have informed the Pet Food Manufacturers Association and the British Veterinary Association. Details of the case will be published next week. They plan a low key press statement in the next day or two in anticipation of the news breaking. We are in close contact with MAFF and are asking them to discuss this urgently with our joint outside experts.

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BOVINE SPONGIFORM ENCEPHALOPATHY (BSE)

1. The disease

BSE is a progressive neurological disorder in cattle, which results from infection with an "unconventional viral" agent. The first case was described in cows in 1986 although there could have been unrecognised sporadic cases prior to that. By 27 April 1990 there had been 12,823 confirmed cases in the UK on 6964 farms. There are no confirmed cases outside the British Isles, apart from a couple of cases in cows recently exported from England.

BSE is one of a family of spongiform encephalopathies - so called because of the spongy appearance of the brain under the microscope - which also include scrapie in sheep and kuru and Creutzfeldt Jakob disease (CJD) in man. The infection which leads to BSE appears to have been introduced into cattle from the contaminated feeding stuff, meat and bone meal, made partly from sheep offal: scrapie is endemic in sheep in the UK.

The agents that cause these disorders are neither bacteria or normal viruses and have not been isolated. The only way to confirm infection at present is with direct injection of concentrated material into experimental animals, usually into the brains of mice, with the animals taking several months to fall ill. There is no blood or other test on the live animal (or human) and hence no way of detecting which animal is infected prior to the start of symptoms. For all the spongiform encephalopathies there is a very long incubation period, probably around 4 years for most cows with BSE and up to 20 or more years in CJD in humans.

The method of natural transmission in scrapie (sheep) and CJD (man) is not known, although it appears there is no obvious case to case spread. The lack of evidence for a link between the sheep disease, which has been present in this country for over 200 years, and CJD in humans helped persuade our expert advisers that it is most likely that the new disease of BSE will also prove to be without hazard to man.

2. Government action to date includes:

a. An expert working party was set up under Sir Richard Southwood and reported in February 1989 (report attached). All their recommendations have been acted upon.

b. The disease has been made notifiable in cattle

c. All clinically suspect animals are slaughtered and carcasses destroyed (now 100% compensation); milk from such animals is also destroyed.

d. Sale or supply of animal protein from ruminants for feeding to ruminants prohibited - hopefully to prevent any new infections in cattle. This has had a major effect on the rendering industry.

e. Another committee was set up under Dr David Tyrrell to report on research needs. A report was published in January 1990 together with an announcement about additional funding. Much research work into the disease is currently in progress and additional studies are being planned.

f. Regulations in November 1989 banned for human consumption various bovine offal (those thought likely to concentrate the agent) from all cattle, going wider than the Southwood recommendations which were for such a ban to affect baby food only.

g. The Medicines Control Agency (MCA) have gathered information from pharmaceutical companies about use of bovine ingredients in parenteral pharmaceuticals and issued interim guidelines. Many biological products and vaccines use such ingredients, but few still source them in the UK. The MCA are considering whether action on specific products is appropriate.

h. The Health and Safety Executive (HSE) is issuing guidance to those who come into direct contact with bovine "risk" tissues. There could be a hazard with accidental inoculation of infected material. The HSE are also discussing risks from BSE exposure with the veterinary profession.

i. All UK cases of CJD will be monitored in a study to be conducted by Dr R G Will of Edinburgh, funded by the Department of Health: this should allow detection of any spread of infection to humans, although this possibility is considered remote.

j. Dr David Tyrrell is chairing a new standing committee to advise MAFF and DH on all aspects of spongiform encephalopathies.

3. Current live issues

Research: Dr Tyrrell's interim report identified a large research programme classed as high priority. Almost all of this research falls to MAFF (Central Veterinary Labs) or the AFRC, although the MRC also has an interest. Substantial money has been made available for this work but research will be laborious and results will come slowly.

Food: There has been constant pressure on MAFF about the supposed risk to humans from eating beef and beef products.

Infected animals who are incubating the disease but do not show any abnormalities cannot be detected at present and will be entering the human food chain. The offal ban removes the highest "risk" tissues. Some critics may not be satisfied by this. However, others may argue the action to date is over the top, not demanded by the experts, and illogical since scrapie-infected sheep can still be eaten and doing so for the last 200 years has not caused harm to humans. We expect BSE agent to be resistant to irradiation as applied to food, as well as relatively resistant to cooking.

Offspring of BSE cows: Some people argue that since it is possible that BSE is transmitted vertically, all calves born to animals which subsequently develop BSE should be identified and destroyed. Were vertical transmission possible (and the Southwood report casts doubt on this) action of this sort might shorten the life of the BSE epidemic somewhat, but we and the Tyrrell group doubt whether such steps are feasible or justified.

Other animals: We have now a single case reported in a domestic cat. There is no evidence that any other species besides cattle (and related species in zoos) have been or could be affected by BSE, other than experimentally, but there are pressures to extend the ruminant protein ban: at present pigs and poultry receive this sort of feed. Publicity about the infected cat could increase these pressures. Such action, which would be hard to justify scientifically, would increase costs for the industry and cause perhaps insurmountable problems for abattoirs, who would find renderers no longer willing to accept offal. Many 1000's of tons of offal need to be disposed of daily.

Exports: Some foreign countries have banned British exports of semen, embryos and livestock. The EC now no longer accepts live cattle over 6 months of age. The Germans have created difficulties over beef exports too. The EC have also made BSE notifiable and considered banning ruminant protein feeding to ruminants, as we have done here. At present, British meat and bone meal can still be exported and might spread infection overseas (MAFF claim importers have been warned that it is not regarded suitable for feeding to ruminants).

Human transmission: There are some in the media and even the medical profession who are trying to make connections between BSE and the human disorder CJD. There is no evidence of any association nor would we expect any cases by now even were BSE to be transmissible to humans. Dr Will's study (see 2i above) will monitor the situation for the next decade or two.

Hilary Pickles

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