

SPONGIFORM ENCEPHALOPATHY ADVISORY COMMITTEE

Note of a preliminary meeting on 7 September 1990

Present

Dr Tyrrell
Mr Pepper
Dr Watson
Dr Kimberlin
Dr Will
Mr Bradley
Dr Pickles
Mr Lowson - Secretary

Introduction

1. The meeting had been called at short notice to consider the implications of the results of experimental work at the Central Veterinary Laboratory (CVL) in order to determine whether or not pigs were susceptible to BSE after parenteral exposure. The meeting considered papers by MAFF circulated on 7 September, and notes by CVL describing the experiment, and by DOH tabled at the meeting.

The experiment

2. Although there had been no previous evidence that pigs were susceptible to spongiform encephalopathies the meeting accepted the conclusion reached by CVL that it provided incontrovertible evidence of the transmission of BSE to the animal concerned. The following points were emphasised:

(i) The animal became affected following intracerebral intraperitoneal and intravenous inoculation with brain tissue from terminal cases of cattle affected with BSE, i.e. a massive dose by highly efficient routes. This result demonstrated that the species was susceptible to BSE, and thereby provided the first known evidence of the susceptibility of pigs to any form of spongiform encephalopathy. So far, only one of the eight surviving animals subjected to an identical challenge had succumbed to clinical disease. Therefore there was no indication of the degree of susceptibility.

(ii) The meeting watched a video record of the affected pig. The symptoms shown by the animal would not have been easily confused with those of another condition in an animal of this age. It was therefore unlikely that more than an occasional case had occurred unnoticed in the field. The vast majority of pigs were slaughtered before clinical symptoms would be expected to manifest themselves. But there were a large number of breeding sows and boars which were retained for long enough for the distinctive symptoms to have been revealed should these occur. None had been reported. On the evidence of this case, the symptoms were sufficiently distinctive for an effective surveillance programme to be feasible.

(iii) Many questions remained unanswered, for example:

- would scrapie produce spongiform encephalopathy in a pig under similar conditions? (As an indication of whether the pathogenicity of the BSE agent was different from that of scrapie).
- would smaller doses be effective?
- would large doses given by mouth be effective? (This experiment had already started.)
- do the tissues of sick or healthy infected animals contain infectious BSE? (This experiment was under way.)

Future action

3. In addition to the experimental work described in 2 (iii) above, the meeting stressed the importance of improving surveillance in order to ascertain whether a spongiform encephalopathy was occurring in pigs in the UK. Cats were shown years ago to be susceptible experimentally to spongiform encephalopathy, and now naturally-occurring disease had been seen in cats. It was therefore essential to look for naturally-occurring disease in pigs.
4. It was very difficult to draw conclusions from one experimental result for what may happen in the field. However it would be prudent to exclude specified bovine offals from the pig diet.
5. Although any relationship between BSE and the finding of a spongiform encephalopathy in cats had yet to be demonstrated, the fact that this had occurred suggested that a cautious view should be taken of those species which might be susceptible. The "specified offals" of bovines should therefore be excluded from the feed of all species. Many feed compounders and pet food manufacturers were already applying such an exclusion in practice.

6. Pigs, and other species, would in particular have been exposed for many years to material from scrapie-infected sheep without apparently developing a spongiform encephalopathy. Therefore there were no grounds for extending the ban on the use of ruminant protein to non-ruminants, providing the specified bovine offals had been excluded.
7. There were no new implications for human health in the fact that a pig had shown itself susceptible under laboratory conditions. If there were a hypothetical risk, it would be highest where porcine tissues which were likely to contain the agent were used in preparations which were injected or implanted into human beings or livestock. This possibility should be brought to the attention of the Medicines Control Agency, the Medical Devices Directorate, and the Veterinary Medicines Directorate.
8. If clear evidence were to emerge that a spongiform encephalopathy occurred in British pigs in field conditions, this would raise new issues which would require further examination. Further measures might then have to be considered, including a ban on some porcine offals for human consumption.