

BOU 926

SPONGIFORM ENCEPHALOPATHY ADVISORY COMMITTEE
MINUTES OF THE 19TH MEETING HELD ON 21 JUNE 1995
AT THE CENTRAL VETERINARY LABORATORY

Present: Dr D A J Tyrrell (Chairman)
Dr R H Kimberlin
Professor J R Pattison
Mr D B Pepper
Dr W A Watson

Mr R Bradley (CVL))
Dr A Wight (DH)) Observers

Mr C Lister (DH))
Mr T E D Eddy (MAFF)) Secretariat

In attendance: Ms M Wilson (BBSRC)
Dr P Dukes (MRC) (for Agenda items 1 to 3)
Dr D Matthews (MAFF)
Miss E J Wordley (MAFF)

Introductory

1 Apologies for absence had been received from Dr Will, Professor Allen, Professor Brown and Dr Hueston.

Minutes of Meeting on 10 February 1995

2. Dr Dukes suggested that paragraphs 5 and 6 of the minutes did not correctly reflect the position taken by MRC in the discussion of the inclusion of the third CJD case in a dairy farmer in the transmission studies. MRC was funding the current study of the two previous farmers and felt that the addition of a third needed to come with a scientific case to justify the considerable cost. It was proposed that the MRC Allen Committee, which was examining research priorities, would provide a suitable forum for examining the scientific case. The marginal cost of the addition of a third farmer would be high (the cost for the first two was £0.25m) and needed clear justification.

3. The Committee agreed that its judgement had been made on the basis that inclusion of an extra case would not add significant extra effort: the main difficulty was the high containment facilities. However, all felt that scientifically it was most important to follow up all three farmers. It was essential to focus on any unusual

cases where there was any connection with BSE. This was not simply another farmer but the third farmer. Since the numbers were very small and it was possible that some cases could be coincidental and some result from transmission, the Committee felt strongly that each should be followed up. Whilst recognising that other methodologies such as the use of transgenic animals were on the horizon, it was known that these had conflicting results and the Committee did not feel it was prudent to await them. The key points from the Committee's discussion should be summarised in the minutes and made available for the Allen Committee to review.

4. It was suggested that the list of priorities for strain typing annexed at Appendix 2 to the minutes needed to be kept under review in the light of other developments. The Committee discussed the priorities further under Any Other Business (see paragraph 28).

5. An amendment was agreed to paragraph 13.

Agenda Item 3 - The use of gelatin and blood and blood products in ruminant feedingstuffs.

6. Mr Eddy explained that Commission Decision 95/60 of 6 March 1995 amended Commission Decision 94/381, which prohibits the feeding of protein derived from mammalian tissues to ruminant species, to exclude certain products from the ban, including gelatin and dried plasma and other blood products. This amendment had not yet been implemented in the UK, though one company was pressing for the provision in relation to blood products to be implemented. UKASTA had confirmed that, despite the legal ban, gelatin was a component of animal feed both in feed supplements and in large quantities of downgraded human food. They would therefore like the exemption to be implemented. If a ban was applied, the latter would have to go to landfill with environmental and economic consequences. The position was delicate since, in practice, the existing ban was being breached. Paper SEAC 19/1 sought the views of the Committee on whether these exemptions should be allowed in the UK. If it was recommended that there was a risk, it would be necessary to seek the agreement of the Commission to an amendment in respect of the UK, otherwise, there was a risk of legal challenge from the companies affected.

7. Mr Eddy added that it was already intended to tighten up on the SBO rules to prohibit the removal of the brain from the skull, as it was difficult to guarantee complete removal of all CNS tissue. In effect, the whole skull would become SBO.

BOV 92 G

Consultations had been completed and it was hoped the necessary legislation would be made within a few weeks. The Committee agreed that this was a sensible change.

8. Dr Tyrrell drew attention to the wider implications of the issue. BABs were continuing to trickle out, including now the case born in 1992, so the Committee should consider carefully whether it was adequate to rely solely on the tightening up currently being made to SBO Order in the expectation that in a few years time the situation would have improved. There was a risk of simply passing on the problem for the future if some infectivity was associated with gelatin, though equally it was important not to over-react.

9. Dr Kimberlin said that the issue was really about SBOs. There had never been any concern about bone, and given that the manufacture of gelatin involved significant processing, in the rest of Europe any minor BSE contamination would be dealt with by that process, given the very small scale of the disease. The same situation should be broadly true of Britain because any SBO should be removed. On this basis, there should be no concern about gelatin, but the logic hinged on the proper removal of SBOs. If this was not being done satisfactorily, there was a risk.

10. Mr Pepper felt it was necessary to look at the practicalities on the ground. The institution of the Meat Hygiene Service on 1 April was a watershed for the introduction of new, more uniform standards. However in view of initial problems with the MHS, it remained to be seen whether adequate standards would be achieved. Dr Watson felt that the Committee could only say what should be done in practice. However it was noted that the Committee had received information before that led it to believe that certain things were standard practice in the industry when it subsequently transpired that they were not. The question was therefore whether the scientific assessment should be changed or whether the science was right and it was a question of implementation and enforcement.

11. Dr Matthews said that in looking at the procedures in abattoirs for the review of the SBO Order MAFF had become uneasy about what it had found. There were problems with the quantities of SBO arriving with the renderers not being commensurate with the throughput of the abattoirs and with use of the patent blue stain, orders for which were negligible. In head boning plants, it appeared that some brain tissue was being left in the skull, though there did not appear to be any problems with the removal of spinal cord. As a result of these findings MAFF was carrying out an audit of practice. Over a period of two months, unannounced visits

were being made and any deficiencies noted and put in writing to the OVS and the MHS, with a further visit after two weeks. If deficiencies were still found, prosecutions would be recommended. So far, on the basis of a very small sample, it appeared that there were some problems with the separation of SBOs and that less than 50% were complying with staining requirements.

12. The Committee was very concerned at these reports given the previous understanding that the position had been satisfactory. It was now recognised that previous reports based on pre-arranged visits to premises had given a falsely reassuring picture. The Committee felt that, if there was evidence that something was going wrong, action should be taken as a matter of the highest priority. The best hypothesis for the continuing number of BABs now seemed to be that SBOs had continued to leak through the system. If this was the case, BAB cases could continue until 2000.

13. Mr Bradley pointed out that the new rendering rules implemented by 1 January 1995 provided one safeguard against continuing contamination, though the weakness of the BSE experiment and the possibility of cross-contamination in feed mills remained. However, it was also known from the pathogenesis study that the distal ileum had been identified as infective and it was important also to take account of the way the offals from the gut were handled as well as the CNS, though these were more readily identifiable in the abattoir.

14. Professor Pattison said that he would be concerned about divorcing the Committee's recommendations from practice. He was worried about efficacy and thought that the change requiring the brain to be left in the skull was an improvement, but needed reassurance that there was security on spinal cord. Mr Eddy noted that, as part of the package of SBO changes, it had been decided that there should be a ban on the removal of spinal cord in knackers yards and hunt kennels because they were not subject to the same degree of oversight. Dr Watson asked for a short paper setting out who was responsible for what and where in relation to abattoirs and other premises handling carcasses and SBOs.

15. The Committee considered whether the exemption from the ban of blood and blood products would represent any risk and concluded that it did not believe it to be a matter for concern. The exemption could be agreed.

BOV 92 a

16. Dr Tyrrell concluded that in order to agree to the exemption for gelatin the Committee needed to be convinced that a negligible amount of infectivity was present in the raw material used to produce it. Their acceptance of the exemption for gelatin was therefore conditional on the adequacy of controls to prevent this. The Committee's main concern was not whether UK legislation was aligned with the EC Decision but whether our animals and humans were protected. This turned on the quality of the practice. Although the risk from gelatin itself was vanishingly small, the Committee could only be satisfied if it was convinced that the existing regulations were being effectively implemented and the new ones were in place. This meant a holding position needed to be taken on Decision 95/60 until the new SBO Order was in place and there was satisfactory feedback from the audit of abattoir practice. Information on the latter should be to hand by the end of July. Provided this was satisfactory, the Committee would be content for the exemption for gelatin to be given effect.

Agenda Item 4 - Mechanically recovered meat (MRM)

17. The Committee considered Paper SEAC 19/4 (previously tabled as SEAC 17/6 but not discussed at the August 1994 meeting). This flowed from a recommendation of the Scientific Veterinary Committee in July 1994 that UK derived spinal column should not be used for the production of MRM except for herds free of BSE for more than six years. The Commission had not taken up this recommendation and was unlikely to do so but the Committee was invited to consider whether there were any grounds for it to change its previous advice on MRM. It had previously been understood that MRM was not produced from spinal column of cull cows though it was now understood that it was in some cases. However, skulls were definitely not used because of damage to the machinery caused by the teeth.

18. In addition, Dr Bradley informed the Committee that, following incorrect claims made by Professor Lacey about the use of bovine eyes in human food, retina and optic nerve from clinically affected cattle had been tested by bioassay in mice. Some of the mice inoculated with retina had now come down with a scrapie-like disease demonstrating that retina showed signs of infectivity. Results on optic nerve were not yet available. The Committee noted that it had earlier recommended, on general principles, that eyes should not be used for dissection in schools, though unfortunately this information had taken some time to reach the schools. The new evidence on infectivity of retinas would be covered by the new SBO changes since

BOU 92 G

the eyes would have to be left in the skull with the brain. The Committee took note of this information, which had not yet been published.

19. On MRM, Dr Tyrrell noted that the key question was once again how effectively the SBO controls were being carried out. Dr Watson said that there was more likelihood of spinal cord being properly removed than brains from the skull. The impact of prohibiting the use of spinal columns on the industry would be enormous. In practice, there was a greater risk from spinal cord spraying onto meat. The question was once again one of policing. Mr Bradley noted that the head of the Meat Hygiene Service had been informed of the requirement to ensure that each side was inspected for the full removal of the spinal cord by meat inspectors.

20. Dr Tyrrell concluded that, provided in the slaughtering process the removal of the spinal cord was done properly, the MRM process was safe and there was no reason for the Committee to change its advice.

Agenda Item 5 - Amino Acids

21. The Committee confirmed that it agreed with the explanation in paper SEAC 19/5 for not including amino acids in the exceptions to "protein" as defined in the Bovine Spongiform Encephalopathy Order 1991. It was agreed that the exclusion of amino acids from the ban did not present a problem.

Agenda Item 6 - BSE in an animal born in 1992

22. Mr Eddy noted that paper SEAC 19/4 had been prepared as background information for the Minister. Earlier discussion had been relevant to this item. It was recognised that the 1992 case was not a one-off and evidence suggested that the existing controls had not been fully applied in some slaughterhouses and in some feed mills. Dr Tyrrell said that for contamination of feed to continue there must have been failures at all three levels: the slaughterhouses, the renderers and the feed mills. A potential alternative source of contamination was scrapie.

23. Mr Pepper said that he was concerned that paragraph 4 of the paper said that this case was not unexpected. If this was the case, it should have been made clear earlier. The Committee considered a chart circulated showing suspects born after the ban but it was noted that the immediate impression this gave was too sanguine since it projected well into the incubation period. A better picture was gained from a risk

analysis chart. Dr Tyrrell felt that despite large confidence limits, this gave the impression that the risk was levelling out, but agreed that it was too early to conclude this definitely.

24. The Committee considered the position in feed mills. Mr Eddy explained that the ruminant protein test had not proved as straightforward as hoped. Sampling on farm had been carried out between June 1994 and April 1995 and the results from 936 samples (359 farms) showed three positive samples related to two feed mills, in one case resulting in positive results in some raw materials from biscuit mix made from waste human food. One company changed its practices instantly. Some mills had admitted as a result of the test that there was no way with their current set-up that they could prevent small scale cross contamination. There was some concern that the test was not validated against all raw materials. There had been cross reactions on three vegetable proteins: salseed, shea nut and mango. Luddington believed they could differentiate these, but the test was not yet validated. The industry would continue to submit more samples to Luddington. One problem in carrying out the test was that MAFF had no statutory right of entry to feed mills. Dr Tyrrell accepted that the test was not sufficiently robust for use in prosecutions but it was clearly helpful to have an independent test. Mr Eddy noted that the feed mills were likely to respond positively because they were concerned about insurance liability. It had therefore proved possible to work with them. The three major players in the industry had indicated their willingness to accept unannounced testing.

25. Dr Tyrrell concluded that although the Committee had no further comments at present on the 1992 case it remained concerned that any problems of control should be rectified as speedily as possible.

Agenda Item 7 - Any Other Business: the Hounds Survey

26. Paper SEAC 19/7 responded to a request from the Committee for a re-evaluation of the pathology material in the hounds survey to determine whether anything further could be derived from the available data.

27. In discussion of the options for further work set out in the paper most members felt that the study had been badly carried out and there would be little value in spending more money to try and improve the interpretation of the data. It was particularly significant that no clinical data were available. However, Dr Kimberlin was concerned about the lack of results from the study. Any further work would

require a control but this could be obtained by exposing hounds to BSE which would also help to answer questions about species sensitivity, thereby serving more than one purpose. The use of immunocytochemistry was fairly robust and would enable the work to be brought to a satisfactory conclusion. Dr Kimberlin's view that this would be necessary was confirmed by an article, circulated at the meeting, showing that the predictive protein sequence was the same in dogs as in cattle. Mr Eddy noted that such an experiment could be expensive and it would be necessary to know what questions were to be addressed.

28. Concluding, Dr Tyrrell said that there was a range of opinions in the Committee from those who thought further work a waste of time to those who wished to do limited further experiments using immunocytochemistry. The Committee did not suggest transmission studies and thought that the lack of clinical data was a major weakness.

Idiopathic Brain Stem Neuronal Chromatolysis (IBNC)

29. Mr Bradley described the results of transmission studies in mice from brains of two cows with IBNC (paper SEAC 19/8). At the previous meeting of SEAC it had been announced that there was no clinical observation in mice: this information had proved to be incorrect for a number of reasons. Of the mice inoculated with brain tissue from the first cow, one had shown equivocal lesions of SE but PrP studies had proved negative. From the second cow there were two definite cases of SE though the lesion distribution was not the same as BSE or any characterised strain of scrapie. The mice with lesions were PrP positive. The incubation period was not typical. There was no obvious evidence of any mix up though one possible area of cross-contamination was in the Perth VIC. More evidence would be needed and further studies to validate the results and proposals were put forward for further study.

30. The Committee noted that the results were unusual. They questioned whether there could be coincidental BSE infection or contamination with scrapie. Dr Tyrrell noted that the feeling of the Committee was that this did not represent a new agent but it was important to be prepared to say something publicly about these findings. A suggested line to take was that these were scientifically unpublishable results but in line with the policy of openness they would be made publicly available and further work done to test their validity. Since the BSE precautions were applied to IBNC cases, human health was protected. Further investigations should be carried out on

BOV 92 a

feed isolations from IBNC cases with removal of the brain and subsequent handling under strict conditions to avoid the risk of any contamination.

Research priorities

31. The Committee reviewed the list of priorities attached at Appendix 2 to the previous minutes. It was agreed that the work on BSE in native-born Portuguese cattle was of higher priority than that on post 1991 BABs with unusual lesions; similarly, as a slightly lower priority, work on the BSE isolate from a French cow imported into the UK. These were both useful to see comparisons from outside the UK and might help to give a better understanding of the origin of the BSE outbreak. Whatever the outcome, the results would be interesting. These two items should be promoted to three stars. Dr Kimberlin said he would also like to see higher priority given to BSE passaged through marmoset which would give worthwhile information on the effects in primates.

32. After some discussion, it was agreed that it was valuable to classify research priorities both on scientific and policy grounds.

Research Update

33. Dr Bradley provided an update on NPU transmission studies provided by Dr Taylor and Dr Manson. The information they had provided (attached at Appendix 1) did not give a clear picture but the message was that clinical disease in sheep and goats was not being confirmed pathologically and vice versa. A summary of updates on other research projects is attached at Appendix 2.

Date of next meeting

34. The next meeting will be held at 10.30 am on Friday, 8 September 1995 in Room 125a Skipton House.

26 June 1995

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