

BSE NON-CONFIRMATION OF DISEASE

1. It is no surprise that when there is more than one way of indicating the presence of infection there is incompatibility between the results of different methods. At the present time there are five methods available to us:-

- 1) clinical (adopted for 'belief' that BSE exists)
- 2) histopathological (adopted for confirmation)
- 3) immunoblotting for PrP<sup>Sc</sup> to detect infectivity
- 4) SAF detection ) associated protein
- 5) infectivity testing in mice

In contrast to some other diseases we use only one test (2) for confirmation of disease. In certain circumstances we may use (4) but this requires fresh tissue (not fixed) as does (3) and ideally (5) though transmission can be done on fixed tissue.

2. So long as the histopathology is done according to the protocol, that is the end of the road. It is better presentationally to show a small number of cattle are killed which do not have lesions, to indicate that the exclusion of genuine cases of BSE is highly unlikely ie the clinical test has good sensitivity. It is because the proposed new 'foramen magnum' protocol does not permit examination of the rostral brain sections that it will result in an increase (though probably small and acceptable) in inconclusives.

3. A question posed by Mr Whaley (para 2) is that classical lesions of BSE may not occur in all cases. Supposing we had a strain variant that produced its lesions in the cerebrum these would not be detected by our current method. I think this would be unlikely but not impossible - another reason why at least a proportion of complete brains (or blocks) should be retained during the epidemic so if the problem Mr Whaley indicates escalates, it can be investigated.

Another explanation could be the occurrence of a phenocopy. That is a disease with an entirely different aetiology but the same signs and symptoms. Usually such entities will produce very similar lesions and it is only at a later time as a result of research that a new cause may be identified. This is scientifically interesting but unimportant for disease control. We have to remove all clinically suspect cases no matter what the cause.

We correlate the clinical signs with a functional deficit in particular CNS sites and usually with accompanying structural change. Since the signs appear identical it appears these cases have identical functional deficits not demonstrated structurally. This is not surprising in a few cases.

4. Infectivity studies in mice are inappropriate because
- a) the material is not collected in a fashion to exclude cross contamination
  - b) it would require 3 years to determine negativity and at least 300 days for positivity
  - c) even if positive it would only indicate agent was present. That

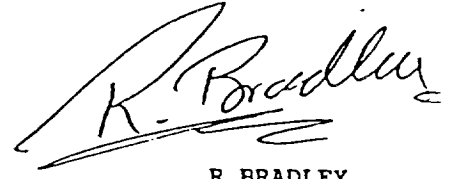
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situation is occurring daily in many exposed animals that are quite healthy though more would have extra-neural infection too. The public is protected from such incidents by the offals ban.

- 5. If you had the information what benefit would there be? What would you do with it?

CONCLUSION

I do not recommend any action. The situation should be accepted. I do not think the VIS can do more at present. The situation should be kept under review particularly if there is an escalation in numbers in this category.



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15 May 1990

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*hr 2/8/90*