ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

REPORT ON MYCOBACTERIUM BOVIS: A REVIEW OF THE POSSIBLE HEALTH RISKS TO CONSUMERS OF MEAT FROM CATTLE WITH EVIDENCE OF M. BOVIS INFECTION 2002

Introduction

1. The ACMSF assessed the health risks to consumers of meat from cattle with evidence of *M. bovis* infection and published a report in January 2002 (Annex 1). The Committee made a number of recommendations to the FSA. In December 2001, the FSA Board was asked to consider those recommendations contained in the draft report relevant to the FSA. The Board were invited:

   - To agree that the Agency should accept those recommendations relating to meat inspection and the recommendation to bring domestic legislation into line with current EU rules.
   - To agree that the option of holding suspect carcasses in cold storage pending receipt of culture results was not likely to be proportionate.
   - To agree that possible action to require heat treatment of meat from reactor cattle should be deferred pending the outcome of discussions on Brussels measures.

2. This paper addresses the action taken in relation to each of those recommendations by the FSA and also those taken by the MHS and HPA.

Recommendations

3. The Recommendations in the report covered a number of areas: surveillance of TB in humans, hygiene legislation and meat inspection.

4. <u>Surveillance of TB in humans</u>

   "We recommend that the Food Standards Agency should do all that it can through the Department of Health to encourage laboratories to continue to refer all mycobacterial isolates from cases of human TB to a Reference Laboratory for identification."

   "We recommend that the Food Standards Agency should, through contact with the Public Health Laboratory Service and the Department of Health, ensure that this enhanced level of surveillance is maintained, and provide support for a long-term analytical study based on the enhanced surveillance; and that the Agency is alerted to any significant trends which emerge which might indicate that eating meat from animals infected with M. bovis constitutes a health risk."

The Health Protection Agency and its partner agencies have a lead role in the control of human tuberculosis in many areas, including surveillance, reference laboratory services, management of outbreaks, research and international collaboration. Through Enhanced Tuberculosis Surveillance (ETS) introduced in 1999/2000 across the England, Wales and Northern Ireland and Enhanced Surveillance of Mycobacterial Infections (ESMI) in Scotland, information is collated on tuberculosis cases. Recent improvements and moves to a web-based system in 2009 mean that ETS is now a more timely and accurate system.

Information on *M.bovis* isolates is obtained from seven mycobacterial reference laboratories which collect data on species, drug susceptibility and some demographic and clinical data. Case report data from ETS and ESMI is matched to data received from the reference laboratories.

Since 2007, the HPA has published annual reports on tuberculosis based on national surveillance data from 2000 to 2008, which describe the epidemiology of human tuberculosis in the UK and present recent trends. The reports enable the FSA to be alerted to any significant trends which emerge which might indicate that eating meat or dairy products from animals infected with *M. bovis* constitutes a health risk.

5. The recommendations made to the FSA for improving abattoir practices and the recommendations in respect of the options for reducing the risks from meat to consumers still further were addressed in an FSA Board paper in December 2001 (FSA 01/08/03) prior to publication of the report.

6. Hygiene legislation

"We recommend that UK legislation should be brought fully into line with the requirements of EU Directive 64/433/EEC."

There was a difference between the requirements of the UK legislation in respect of generalised TB and the EU legislation in respect of localised TB, where localised lesions are found in a number of organs or areas of the carcass. The EU legislation requires the carcass to be condemned if lesions are found in a number of organs or areas of the carcass while the UK Regulations allowed lesions in two organs and one system before requiring total condemnation. The Board agreed that the Agency should accept the recommendation to bring domestic legislation into line with current EU rules. However, this legislation is no longer in force as Council Directive 64/433/EEC was superseded from 2006 by Regulation (EC) 854/2004, Annex I, Section IV, Chapter IX, E (Tuberculosis), paragraph 2 that requires the following: "All meat from animals in which post-mortem inspection has revealed localised tuberculous lesions in a number of organs or a number of areas in the carcase is to be declared unfit for human consumption. However, when a tuberculous lesion has been found in the lymph nodes of only one part of the carcase, only the affected organ or part of the carcase and the associated lymph nodes need to be declared unfit for human consumption."

Meat inspection

7. The Board also agreed that the Agency should accept those recommendations relating to meat inspection, as follows.

"The Committee recommends that the Meat Hygiene Service reviews its record keeping of post mortem inspection findings, judgement and action, samples taken, and culture results collated for each animal, as a basis for regularly assessing their performance and the need for any improvements therein."

Animal Health (AH) and the MHS are in the process of introducing significant changes to the procedures for the collection of samples. It is intended that AH will be providing information on the level of sampling required for each batch of animals compulsorily slaughtered and the MHS will collect and submit these directly to the VLA. The new data collection systems allow for recording the type of lesions found and the decision about the fitness of carcases. VLA then submits the results of the laboratory analysis to the MHS.

Current arrangements are:

- AH collect samples from the abattoir after MHS inspection.
- AH further examines the samples in their offices, removes fat and muscle and selects those to be submitted to the lab.
- AH does all the paperwork and packing of the sample and sends to the lab.

Changes are:

- MHS to do a more detailed, on the line, inspection of lymph nodes and collect samples as free of fat and muscle as possible.
- The OV is to record a description of the lesions found following guidelines agreed with AH and VLA.
- The OV is to complete the form that accompanies the samples to the lab.
- The collection of samples and submission to the lab is done by the MHS.

The introduction of the above changes has required the co-operation of the three agencies involved: MHS, AH and VLA. A pilot project started in late 2008 and ran through most of 2009. In December 2009 the Project Board agreed to roll out to other abattoirs.

8.

"We recommend that the requirements [in the MHS Operations Manual as to the time when, and in which part of the abattoir the animals under licence are allowed to be slaughtered] be reviewed and, in all cases, such animals are either slaughtered last in the day, before the full cleaning and disinfection of the slaughterline, or are slaughtered in a dedicated room in the abattoir."

In most abattoirs where TB reactors are slaughtered, when numbers are sufficient, suspect animals are slaughtered on dedicated days. Alternatively, they are killed at the end of the day or at the beginning followed by cleaning and disinfection before other carcases are processed. This is supported by the legislation. In NI, TB reactors can only be slaughtered in abattoirs licensed to do so, while in GB TB reactors are slaughter in abattoirs that are designated by AH.

9.

"We recommend that, where an animal is found to have a tuberculous-like lesion at routine post mortem meat inspection, that carcass and offal be placed immediately in the detained area before further detailed inspection and before any samples are collected."

This has been incorporated into the MOC for 'slaughterhouse cases'. In addition, the MHS has developed a protocol for an agreement between the abattoir operator and the MHS outlining the respective responsibilities.

10. Two further recommendations were provided if the FSA were to conclude that additional steps should be taken to reduce the very small risk still further.

"To cease to allow meat from reactor cattle with visible lesions or from cattle found to have localised tuberculous lesions on routine post mortem inspection to be sold as fresh meat. If, in accordance with the legislation, condemnation of the whole carcass did not occur, the meat should not go for sale as fresh raw meat but could go for manufacture where there was an adequate heat treatment step in the process."

and

"(As <10% of reactor cattle which have no visible lesions are culture positive) another option would be to require these to be held in cold storage until culture results were available. Carcasses giving positive results would then be either partially or totally condemned."

The FSA Board agreed in December 2001 that it was not proportionate to the risk to require suspect carcases to be held in cold storage pending receipt of culture results and that possible action to require heat treatment of meat from reactor cattle should be deferred pending the outcome of discussions in Brussels.

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