Reducing the risk of human *M. bovis* infection: information for farmers

This information sheet provides general advice on bovine tuberculosis (TB) for farmers and others involved with farm livestock.

What is bovine TB?

Mycobacterium bovis (*M. bovis*) is a bacterium that causes bovine TB in cattle. Cattle, buffalo and bison are the natural hosts of *M. bovis*, but nearly all warm-blooded animals are susceptible to the infection. The organism also has the capacity to infect and cause TB in humans. However, the risk of infection for the general public remains very low in industrialised countries with long-standing bovine TB control programmes and where pasteurisation of cows' milk is either mandatory or commonly practised.

Humans and *M bovis*

TB caused by *M. bovis* is diagnosed in a small number of people in the UK every year. The majority of cases are in people over 65 years old (and who drank infected unpasteurised milk in the past) or in those of any age who picked up the infection abroad. The number of human TB cases due to *M. bovis* infection is closely monitored by the Health Protection Agency in England and Wales, and Health Protection Scotland in Scotland. Overall, human TB caused by *M. bovis* accounts for less than 1% of the total TB cases in the UK. However, those working closely with livestock and/or regularly drinking unpasteurised (raw) milk have a higher risk of exposure.

How is bovine TB transmitted?

Transmission of *M. bovis* can occur between animals, from animals to humans and, more rarely, from humans to animals and between humans. Transmission to people can occur through consumption of unpasteurised milk and unpasteurised milk products from infected animals[1]. It is also possible to contract *M. bovis* infection by inhaling the bacteria shed by infectious animals in respiratory and other secretions, or through contamination of unprotected cuts or abrasions in the skin while handling infected animals or their carcasses, although this is rare.

Meat is highly unlikely to be a source of infection in Great Britain, as the routine TB testing programme means that cattle with TB are generally identified at an early stage of infection and cases of advanced disease with TB abscesses in the muscle and bone tissue are very rare. Furthermore, carcasses containing signs of TB are completely or part condemned during routine meat inspection. Any TB bacteria that might still be present in or on the meat would be killed by normal cooking [1].

Symptoms of TB in humans

It is not possible to clinically differentiate between human TB caused by *M. bovis* and that caused by the closely related *M. tuberculosis* (the human TB bacterium). The course and extent of the disease is the same, as is the treatment in most cases. Symptoms of respiratory TB include weight loss, night sweats, fever and a persistent cough which may contain blood or pus. Infection acquired through consuming food products infected with *M. bovis* may affect any part of the body.

Treatment of human TB caused by *M. bovis*

The vast majority of drugs used to treat people infected with the human TB bacterium are also effective against *M. bovis*. However, the treatment of TB in people is long and involves a combination of several drugs. *M. bovis* has the capacity to become resistant to anti-TB drugs and, therefore, it is essential that patients take the full course of prescribed drugs.

Reducing the risk of human *M. bovis* infection on farms

Working with livestock may involve close contact with latently infected animals or animals with active tuberculosis. Relevant regulations[2] require farmers to adopt appropriate measures to minimise exposure of employees and farm visitors to infections that can be transmitted to humans from animals. These include awareness of possible risks from contaminated aerosols in areas frequented by farm workers.

In order to reduce the risk of exposure to bovine TB bacteria on livestock farms you should:

- Wash hands thoroughly several times a day and always before eating, smoking and after finishing work for the day
- Wash skin wounds immediately with soap and running water and cover with a waterproof dressing
- Avoid drinking milk that has not been pasteurised or boiled, or eating dairy products made with raw milk. If, despite the risks to human health involved, you or someone in your family still wish to consume unpasteurised milk and its products, make sure that the milk comes from an officially TB free herd that undergoes regular testing for bovine TB
- Do not drink, eat or smoke in animal areas
- Where possible, do not handle reactor cattle or other suspect animals around the nose

Reactors or other infected animals have been found in my herd – what should I do?

- When animals with demonstrable signs of TB are found within a herd, Animal Health will notify the local health and environmental health authorities. The details will be referred to the Consultant in Communicable Disease Control (CCDC) of the local Health Protection Unit (in England), the Health Protection Team (in Wales), or the Consultant in Public Health Medicine [CPHM] of the local Health Board in Scotland
- The Animal Health Duty Veterinary Officer will provide information regarding any concerns you may have about the spread of infection between animals, and the Environmental Health Officer will provide information about food safety.
- The CCDC will assess the need for tracing people who may have been exposed to infected animals
- Although the BCG vaccine is no longer universally given at school age, local healthcare services can identify, test and immunise children that are at increased risk of developing TB, on a case by case basis. Screening is only routinely offered to children aged under 16 who have not had a BCG vaccination, if they have regularly drunk unpasteurised milk from an animal with TB in the udder[3]
- If you suspect you and/or any member of your family or workforce have been exposed to bovine TB, contact your GP, NHS Direct (England & Wales) or NHS24 (Scotland) for advice (see details below)

Useful resources

- **NHS Direct**: ☎0845 4647 www.nhsdirect.nhs.uk/
- **NHS24:** ☎08454 242424 www.nhs24.com
- Health Protection Agency website, Bovine TB pages: http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1204619502284?p=1204619502284
- DEFRA: http://www.defra.gov.uk/animalh/tb/abouttb/protect.htm
- Common zoonoses in agriculture (leaflet): http://www.hse.gov.uk/pubns/ais2.pdf

References

[1] Department of Health and the National Assembly for Wales. *Bovine Tuberculosis: Guidance on Management of the Public Health Consequences of Tuberculosis in Cattle in England and Wales.* June 2000.

[2] The Control of Substances Hazardous to Health Regulations 2002, as amended; the Management of Health and Safety at Work Regulations 1999 (MHSWR) and the Health and Safety at Work, etc. Act, 1974

[3] National Institute for Health and Clinical Excellence. *Tuberculosis: clinical diagnosis and management of tuberculosis and measures for its prevention and control*. March 2006