



Animal &
Plant Health
Agency

Information Note

Farmer information note on bovine besnoitiosis

August 2018

This disease is caused by a cyst-forming parasite *Besnoitia besnoti* which can be spread by insects. Direct spread through the use of hypodermic needles for multiple animals could also transfer infection. There are no reports of transmission from cattle to offspring.

The disease has been recognised in France and Portugal for over 100 years but has spread to other countries and was reported in the Republic of Ireland in July 2015. It has probably spread through the movement of sub-clinically infected cattle.

There are no known food safety or human health risks associated with the disease. It is not notifiable, but APHA would wish to know about any suspect cases.



Figure 1: Cow affected with besnoitiosis showing chronic skin changes

Clinical signs

Clinical disease is often mild with many infected animals showing no signs at all. Less than 10 per cent of infected animals will die of this disease, with deaths usually occurring during the chronic stage in severely affected animals.

Acute disease

This is more commonly seen during the summer when biting flies are active. The signs are not specific to *Besnoitia*. Clinical signs seen are:

- Fever (pyrexia) which can persist for one week or more
- Runny eyes and nose
- Loss of appetite with severe weight loss
- Photophobia (closing eyes in bright light)
- Reluctance to move, recumbency
- Red discolouration of skin, particularly of the muzzle, around the eyes and on the scrotum

This may be followed by:

- Subcutaneous oedema fluid formation. This may vary from slight swelling of the face to thickening of the skin folds over the neck, back and chest to subcutaneous oedema over the entire body
- Pain on movement
- Inflammation of the testicles leading to sterility
- Abortion
- Diarrhoea

Chronic disease

Animals once infected remain so for life. They may recover from acute signs and show no or minimal clinical signs but can act as a source of infection to others. A proportion will show severe chronic disease. Clinical signs seen are:

- Cysts (white granules the size of sugar grains) on the surface of the eye and the vulval mucosa (see figure 2)



Figure 2: Typical cysts of *Besnoitia* on the eye

- Progressive thickening, folding or wrinkling of the skin with hair loss. (This may be widespread or localised. The skin on the udder or scrotum and eyelids may also be affected). Raw fissures and scabs can form (see figure 3)



Figure 3: Skin lesions in chronic besnoitiosis

- A nasal discharge
- Lameness due to laminitis with non-healing sole ulcers

Diagnosis

Please contact your veterinary surgeon or APHA for information if you suspect a case of bovine besnoitiosis.

Diagnosis of chronic disease is by blood serology and APHA has a validated ELISA test for serum or clotted blood.

Control

There is no treatment for infected animals or available vaccine. Control measures are limited due to the fact it can be spread by vectors. The following could slow the spread of this disease:

- Keeping a closed herd
- Isolation of suspect cases and prompt investigation
- Control of biting flies

Sian Mitchell, BVMS, PhD, Dip EVPC, Dip ECSRH, APHA Discipline champion for parasitology, August 2018

Photographs courtesy of Dr. H Cortes, Victor Caeiro Laboratory of Parasitology, Universidade de Evora, Portugal



© Crown copyright 2018

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v.3. To view this licence visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ or email PSI@nationalarchives.gsi.gov.uk

<http://apha.defra.gov.uk/vet-gateway/surveillance/index.htm>

The Animal and Plant Health Agency (APHA) is an executive agency of the Department for Environment, Food & Rural Affairs, and also works on behalf of the Scottish Government and Welsh Government.