Bleeding Calf Syndrome

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In earlier editions of Disease Surveillance News we described a new condition that was characterised by extensive unexplained bleeding and death in young calves. This disease, which was named bovine neonatal pancytopenia (BNP) or bleeding calf syndrome, has now been identified throughout the UK and in many countries in Europe. While investigations into this disease are still proceeding, initial work has identified as a strong association between BNP and the use of a particular BVD vaccine (PregSure BVD®, Pfizer Animal Health), which has been removed from the market.

Affected calves are always less than one-month-old. They may be fevered and be seen to bleed from the nose, gums or from the site of ear-tags or injections. Some calves may also pass blood in the dung. However, in other cases the calves may simply be found dead, having shown no sign of bleeding whilst alive. When these calves are examined post mortem there is evidence of extensive internal bleeding.

Researchers have shown that the disease results from damage to the cells of the bone marrow, resulting in an initial tendency to bleed and a failure to fight infections. The loss of blood causes the death of the calves. Other calves on affected farms may suffer less severe bone marrow damage and manage to survive. In general only two or three calves have been affected on any one farm, but as many as 5% of the calf crop has died in some outbreaks.

Confirmed cases of BNP have already been received at SAC C VS Centres in 2011. Should you experience any illness in young calves that fits the description or unexplained losses among young calves, please contact your vet who will be able to advise further and will liaise with your local SAC Centre.
Psoroptic mange – a threat to Scottish cattle

Helen Carty SACC VS Ayr

A skin disease called psoroptic mange has recently emerged in Britain, most likely introduced by cattle imported from Europe. The first outbreak was diagnosed in south Wales in 2007 and since then a further 22 farms have been affected, mostly in north Wales and south-west England.

The condition has not yet been diagnosed in Scottish herds. However, with cross-border cattle movements happening so regularly it is important to remain vigilant, since its introduction would have serious welfare and economic implications.

Being very similar to sheep scab the condition causes an intense itch in affected animals. Despite the similarities there is no link with sheep cases, and transmission occurs only between cattle.

The disease is caused by mites that pierce the animal’s skin to feed. Affected cattle show infection as crusting scabs or bleeding along their back, shoulders and tail head as shown opposite.

The Psoroptes mites that cause the skin damage are less active in summer. This means that infected cattle may not show obvious signs until winter, allowing silent spread of disease across the country if there are cattle movements from infected premises.

Treatment of the infection in cattle is problematic. Experience in Wales suggests that cattle mites are resistant to drugs commonly used to treat scab in sheep. Another complication is that no licensed products exist for use in lactating dairy cows. Any suspect cases should be reported to your vet who can take samples to see if the mites are present and check the efficacy of treatment.

Further information is available from SAC Veterinary Centres.

Tyre wire disease on the increase

Graham Baird SACC VS Perth

Deaths in cattle caused by internal wire injury seem to be on the increase in Scotland. In January, February and March, the SACC VS Centres confirmed five outbreaks of this condition. This follows several years of a steady increase in the number of outbreaks across the UK.

Tyre wire disease or traumatic reticuloperitonitis is caused when pieces of wire are eaten by cattle. Usually this wire contaminates silage being fed to the cattle and originates from perished or damaged tyres used to weigh down the covers on silage pits (see figure 1). If the wire becomes lodged in the wall of the stomach it can cause the animal chronic abdominal pain, leading to an arched back appearance (see figure 2). The constant movements within the stomach wall can then cause the wire to move steadily within the abdomen, leading to further damage to other abdominal organs or progressing forward to affect the heart where the results can often be fatal.

Historically the majority of affected cattle are cows from dairy farms. With the daily handling at milking it is often easier to identify the signs of arched back and stiff gait in dairy cows. In comparison the condition is generally much harder to detect in beef animals, where sudden death is the most common outcome. As a result the condition may well be under-reported in suckler herds.

If you are using old tyres to weigh down covers on your silage pit then ensure that they are in reasonable condition and most importantly that no wire has penetrated the rubber. Any perished tyres should be rejected and disposed of safely where livestock cannot reach them. Any other possible sources of wire on grazing or silage fields such as old fences should also be removed and disposed of away from cattle.
Environmental mastitis in Scottish dairy herds

Colin Mason SACC VS Dumfries

Analysis of data from 2010 shows that the most common causes of dairy cow mastitis in Scotland were the bacteria E. coli and Streptococcus uberis. This is important since both these organisms are so-called environmental pathogens. Such bacteria can exist away from the animal: in housing and on bedding for example. Infections therefore tend to spread by moving from the environment to the cow, rather than from cow to cow. The main challenges to the cow from these environmental pathogens include infections picked up during the dry period or immediately around calving, and from environmental challenge during lactation.

By considering when the majority of clinical mastitis cases occur in a dairy herd, your vet can obtain a useful guide to the source of any environmental infection. In herds where most cases of mastitis due to environmental organisms occur during the first 100 days of lactation, it is likely that the infections are picked up during the dry period or at the time of calving. This area of management can then be reviewed carefully. The udder is particularly susceptible to new infections in the last few weeks of the dry period and around calving. Therefore overstocking of pregnant cows on straw yards is often the most significant risk factor. A minimum of 12 m² / cow of lying space should be available at this critical stage of the year.

Long bone deformity of calves – a condition on the rise?

George Caldow SACC VS St Boswells

Occasionally pregnant cattle (particularly beef cattle and heifers), over-wintered on silage give birth to deformed calves. These calves are small due to the shortening of their limbs giving them the characteristic short, often bowed legged, appearance shown below. In addition they may have dished faces and domed heads. In some cases deformities can be so bad that calves cannot stand to suckle and have to be put down.

This condition is seen where winter rations for pregnant cows consist almost entirely of silage. It appears that good quality silage made from leafy, fast growing grass is most likely to cause the condition. As a result it is generally associated with high quality pit silage but can, on occasion, occur with big bale silage. We have seen outbreaks with red clover silage and where whole crop silage has been used.

This spring some herds have reported a particularly high rate of deformed calves. Because many producers are well aware of the syndrome and can identify it as soon as calves are born, it can be difficult to know just how common the condition is.

Despite the standard appearance of these calves it is vital to have the condition confirmed by a full postmortem examination that will include examination of the affected long bones. This will ensure that there is no other disease process at work (which may require a different control measure) but also allow SAC C VS vets to gain a better understanding of the extent of the problem in Scotland.

Recommended actions

Investigate the birth of non-viable and deformed calves, especially those born in the early autumn or late spring.
If long bone deformity is diagnosed seek advice on corrective feeding and other management actions that can minimise the risks.

A young calf showing typical signs of long bone deformity
Pasteurellosis in sheep

Graham Baird SACC VS Perth

Pasteurellosis is still one of the major killers of Scottish sheep. SAC C VS records indicate that deaths occur during two main peaks of disease in the year. The first peak is the late spring rise in cases of pneumonia of *Mannheimia haemolytica* that begins in May and the second is the peak of systemic pasteurellosis in the autumn.

**Pneumonic pasteurellosis**

In 2010, the total number of outbreaks of pneumonia due to *Mannheimia haemolytica* was 112. Most cases were recorded in the previous year’s lambs, with the affected age group generally between 15 and 18 months. As is usual with this disease, the main peak in diagnosis occurred in the later spring and early summer. Mortality rates of up to 10% were recorded in some Scottish outbreaks.

A noteworthy feature of *Mannheimia haemolytica* diagnosis in older sheep is the association of the pathogen with ovine pulmonary adenocarcinoma (OPA) or jaagsiekte. The progressive damage caused by the OPA tumour puts the ewes at risk of a fatal secondary bacterial infection. This is most often encountered during the period of winter housing for ewes. If the prevalence of OPA were to increase further within the Scottish national flock, this could well be reflected in a consequent rise in diagnoses of *Mannheimia pneumonia*.

**Systemic pasteurellosis**

Systemic pasteurellosis due to *Pasteurella trehalosi* principally affects lambs during the autumn and early winter months. In the great majority of cases, the initial presenting sign is sudden death, with lambs in the age range of six and eight months most commonly affected. Mortality rates can reach as high as 30%. Concurrent parasitic gastroenteritis and trace element deficiencies were identified in a number of the outbreaks reported by SAC C VS.

Risk factors suggested to be of importance in predisposing lambs to systemic pasteurellosis are folding on rape or kale, and movement to improved pasture. Periods of poor weather can also coincide with a surge in diagnoses of systemic pasteurellosis.

Producers are advised to investigate outbreaks of pneumonia or sudden deaths in their flock. An early diagnosis can enable the use of preventative antibiotic treatments and will allow your veterinary surgeon to best advise you on the use of vaccines to prevent outbreaks of disease in the future.