

FARM PRACTICE NEWSLETTER

AUGUST 2011



Calf scours

I have lost count of the number of times I have been asked in recent months as to which is the best antibiotic for calf scour. The short answer is that antibiotics are very rarely indicated at all for calf scour, and it is a question which misses the crucial importance of fluid therapy.

Virtually the only cause of scour where antibiotic is of benefit, whether in a calf or adult, is Salmonella. It is very rare that we diagnose Salmonella as the reason for diarrhoea, so implementing antibiotic therapy just in case is not really warranted.

Causes of calf scour

1. Nutritional

Any sudden change in diet or pattern of feeding can cause nutritional scours. In young calves this tends to occur when milk has been withheld for longer than usual, errors in mixing milk replacer or if creep feeds are phased in too aggressively. These animals don't tend to need treatment unless dehydrated, in which case oral fluid therapy may be of benefit. Their diet previous to the scour should be given little and often.

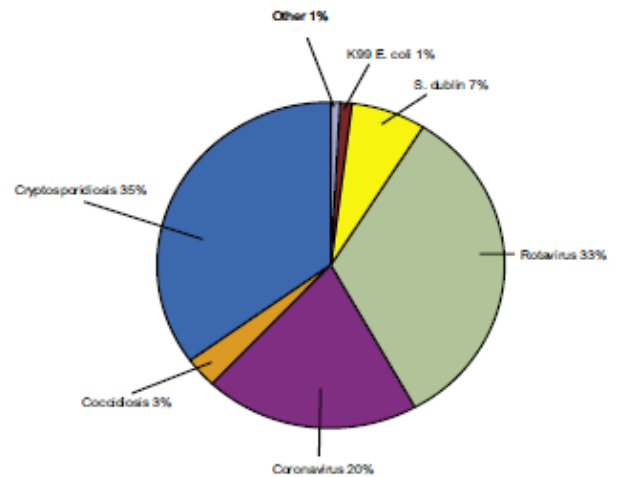
2. Infectious

These can best be subdivided into scours which occur at less than 3 weeks of age, and those that occur in calves over 3 weeks.

Young calves (<3 weeks)

• Viral scours

Rotavirus and coronavirus are present in nearly all herds. The adult population is immune, but shed the virus in faeces. Healthy calves which receive adequate colostrum and are kept in clean conditions will be exposed to a low level of the virus and develop immunity without scouring. With poor colostrum intake and/or heavy environmental contamination, calves tend to scour at 4-21 days of age as the virus overwhelms them. Recovery usually takes 5-7 days. This is the most common cause of calf scour, as can be seen from the SAC chart below:



• Cryptosporidia

This is a protozoan parasite which can also affect people (wash your hands!). It is the

second most common cause of scours in calves 4-21 days old. It is passed in the same way as viral scours from adult carriers. Hygiene is especially important as the infective dose is relatively low.

Recovery tends to be slightly slower than for viral scours, about 10 days.

- E coli

All calves will be exposed to many different strains of E coli within a few hours of birth. Most of these will colonize the gut without causing any clinical signs. A few strains e.g.K99 are pathogenic and will cause acute scour in the first 4 days of life. As can be seen from the chart above, the number of cases of this is very small. If it is a known problem on farm, it is probably best controlled through vaccination with Rotavec Corona in combination with good hygiene and colostrum management rather than antibiotic therapy.

Older calves (>3 weeks)

- Coccidiosis

Coccidia are also protozoan parasites, but tending to affect calves between 3 weeks and 6 months old. As with cryptosporidia, they are spread by older carrier animals and hygiene is particularly important. It can cause anything from mild to mucoid bloody scour, and the legacy of intestinal damage can lead to a prolonged recovery of up to 2 weeks.

All ages

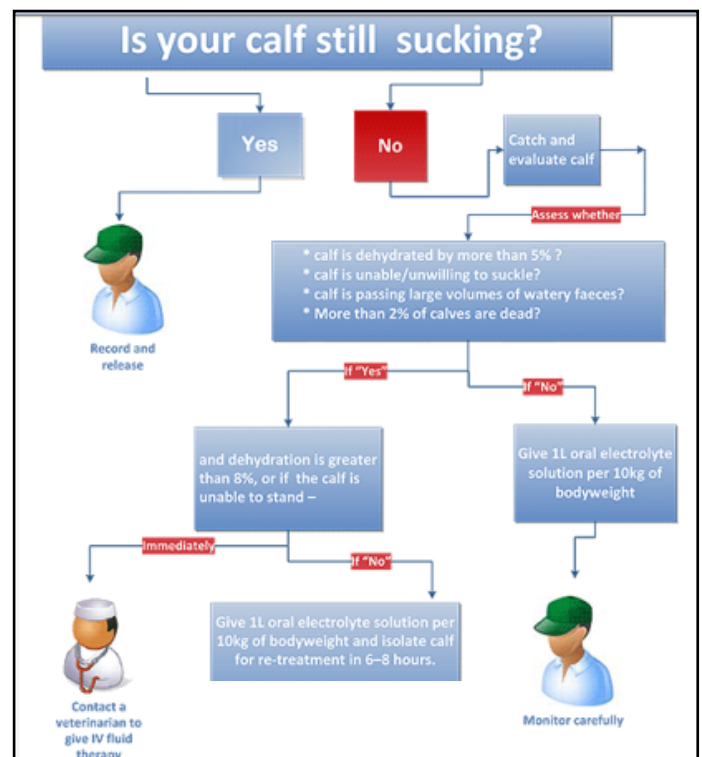
- Salmonella

As mentioned above, this is a relatively rare cause of scour but can affect any age of animal. There are various different strains, but S.dublin is the most common. If

salmonella is isolated, a full investigation needs to be done as some strains affect people. Antibiotic therapy would be of benefit if this is confirmed as the cause. Longer term there is an effective vaccine for S. dublin.

Treatment for calf scours

The principal treatment for all severe cases of scour is fluid therapy. Calves die because of dehydration – their water absorption is diminished and they lose fluid faster than they can drink. In all cases of scour where mild to moderate dehydration is suspected, oral fluid therapy using a proprietary electrolyte formula (e.g. Efficoral, Lactade etc) should be implemented. The flow chart below gives an indication to help your decision making:



Historically, advice was always to withhold milk and give electrolyte only for 48 hours, as milk was thought to provide a growth medium for E coli in the gut. The problem with this approach is that there is not enough energy in electrolyte products to sustain a calf. Without an energy source, the calf

has no hope of overcoming the infection. It is now recommended that alternate feeds of electrolyte solution and milk should be implemented either from the start or after 24 hours of electrolyte only. A relatively new product called Rehydion Gel is designed to be mixed with milk. It contains electrolyte and also claims to aid milk clotting in the stomach (resulting in improved absorption). Using this in the milk at the alternate feed allows for extended supportive fluid therapy in severe cases of scour.

In very severe cases, ie. a calf unable to stand, intravenous fluid therapy can make an almost miraculous difference. As a practice we get called to very few of these compared to vets in major beef suckler areas, where a greater value is placed on the calf. Speaking to those vets, they have a very good success rate dripping calves provided they are not called in too late.

For cryptosporidium and coccidia, **specific treatments are indicated:**

Cryptosporidia

Halocur reduces the severity of disease in affected calves, and importantly reduces oocyst output thus reducing environmental contamination. If a diagnosis has been made, it works best as a preventive measure for the rest of the group sharing the accommodation. Care should be taken not to overdose as it can be toxic at twice therapeutic level.

Coccidia

Vecoxan or **Baycox** are both indicated for treatment of clinical cases. They both come as a drench. There is data showing that Baycox has a longer protective effect than Vecoxan, but it is only available with veterinary prescription. They are most effective when given at the point when you **expect** to see problems, i.e. just before the onset of clinical disease rather than as a reaction to it.

Deccox can be incorporated into feed for long term coccidiosis control if other measures have failed. You need a prescription for your feed merchants to do this. Beware withdrawing suddenly if the environment is still a risk, as immunity to coccidia may not have built up so naive animals can go down with disease following exposure.

Prevention of calf scours

Could be summarized as 2 words:

Hygiene and **Colostrum**

With adequate hygiene, and provision of 4L of good quality colostrum in the first 6 hours of life, infectious scours can be virtually eliminated.

Disinfection of calving and calf pens is important. Cryptosporidia and coccidia are resistant to most disinfectants. Look out for disinfectants containing **Cresol** as the active ingredient, e.g. Dettol.

Prompt navel dipping with iodine at birth, and careful penning of young calves in matched age groups of no more than 5 animals is also very effective.

Quality of colostrum is very variable, but is easy to check using a refractometer (available online for about £40 – ring if you want some advice). It is important to get one using the Brix scale. The target level for colostrum is 20 on that scale. Having tried this on a couple of farms, experience would suggest that anything after the first milking is of poor quality and not really adequate for the job.



Vaccination may be of use in certain situations. Salmonella vaccination was mentioned above. Rotavec Corona is indicated if a K99 E coli problem

has been diagnosed, and in suckler herds where rotavirus or coronavirus is continuing to be a problem. These would be ongoing programs of vaccinating dams prior to calving, and would only be implemented following discussion with your vet.

Scour investigation

If your calf scour is an ongoing problem, it is well worth investigating. We would take 3-4 samples from untreated affected calves and send them for the relevant tests at the VLA depending on age. We may also bleed some calves less than 10 days old to check for immune transfer, which would identify problems with colostrum.

The result of the investigation can then help to address management practices specific to that pathogen. Specific treatment may or may not be indicated, but clearly in the meantime fluid therapy and hygiene is of paramount importance.



New Vets

We would like to welcome Philip Stoakes and Andy Bramall, who are starting with us this month. I'm sure you will give them your usual warm welcome!



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