

HARDWARE DISEASE

Peter Edmondson
Shepton Veterinary Group
Allyn Saxon Drive

Matt was far from happy as some of his cows were not performing. He runs a great herd with his wife Joan, 250 cows average 10,000 litres. Their attention to detail is amazing, the cell count runs at 150,000 and the Bactoscan is usually under 10! Not much gets past them. You can walk round the herd and Matt will tell you all about every cow. He is helped by Mike, who is responsible for feeding. Cows are fed a complete diet through a mixer wagon.

The cows in question looked a bit miserable and were not milking as expected. They had all calved within the past two months. Matt thought that one or two of more recently calved cows had metritis as their temperatures were raised. He treated them with antibiotics following the farm protocol. He suspected that maybe the others had had a displaced abomasum or a digestive disorder.

The cows looked pretty poor. Slow to move, most had a raised temperature, clean inside and no evidence of any displacements. Some new cows had been purchased and so you think of IBR, but there were no tell tale signs of a sudden milk drop or runny eyes. I diagnosed hardware disease, and this was confirmed by opening up one of the poorer cows and I felt a lot of adhesions at the front of the rumen.

Hardware disease occurs when bovines eat metal which penetrates the reticulum, the second of the cows four stomachs and makes it's way through the diaphragm (the muscle which separates the abdominal organs from the heart and lungs). If the wire continues through to the heart it will pierce the pericardium, the sac surrounding the heart. Infection in the pericardial sac interferes with heart function. Hardware disease is most frequently seen after calving as the huge contractions to push out the calf can push wire through the reticulum. So a cow may eat wire in mid lactation and no signs are seen until after she calves next lactation.

The outcome will depend on where the wire has gone and the damage that has been done. Treatment may be hopeless, or can be quite successful. In Matt's herd we didn't know how or when wire got into the feed, how many cows may have eaten it, and how many cows had pieces of wire starting to migrate through the diaphragm.

All the cows and replacement heifers were dosed with a magnet to trap any pieces of wire that may have already been eaten. Cows are not selective eaters and it's amazing what you find in the rumen. Magnets are very effective and can pull back some pieces of wire which have started to migrate.

We needed to make sure that the risk of this happening again was minimised. The forage harvester has a magnet and so this stops the machine whenever any wire is detected. Matt uses a contractor and he is a very busy man. Could he have switched this off so he could get through more acres per day?

The silage clamp was covered with tyres to keep the plastic sheeting down. Tyres are easy and cheap for this purpose. The only problem is that if one of these fell into the mixer wagon, the tyre would split and go everywhere in the feed. We had no idea if this could have been the case. We could not find any traces of wire in the feed or the troughs.

The problems with hardware disease in Matt's herd went on for about eighteen months. Twenty cows were culled for this condition. Two died and we had post mortems carried out which confirmed the diagnosis. The really frustrating part was we never established the cause or when the damage took place, and we had no real idea how long it was going to go on for.

What can we learn from Matt's hardware disease? Magnets are cheap and we recommend that all heifers should receive one magnet before they calve. These should trap any wire that they eat. When foraging, the harvesters metal detectors should always be switched on, to stop metal getting into the clamp. Don't put tyres on top of the silage pit if feeding through a mixer wagon. Mistakes can happen and if a tyre falls in, the damage is done and it's unlikely any trace will be found. It's also helpful to have magnets in the feeder wagon itself to act as another safety barrier.