Traumatic Reticulitis (Hardware/Tyre Wire Disease)

Traumatic Reticuloperitonitis (TRP) results from cattle eating metal and occasionally other sharp objects, which go on to penetrate the reticulum, causing infection and injury in the abdomen and other organs. The reticulum is the first part of the cow’s stomach, situated on the left side just behind the heart. Many heavy objects eaten by the cow will lodge in the reticulum. Cows are poor at identifying metal in their mouths and swallow without much chewing. Wires which cause TRP are typically at least 60cm long. Smaller pieces can usually pass on through the gut without harm.

Metal and other sharp pieces of the right size get stuck in the reticulum. The reticulum contracts in part of the cudding process and this pushes these pieces (typically wires) through the reticular wall into the abdomen. Infection is introduced at the same time causing peritonitis. The wire(s) can migrate back and forth to the reticulum or into liver, spleen, the chest cavity or the heart. A number of these may simply cause a brief peritonitis and then apparently make reasonable recoveries and the adhesions are only noted in the abattoir when the animal is slaughtered.

In most cows the initial signs are an immediate sharp milk drop, usually to less than half her normal yield, often to as little as 5 litres. Cows also go off their feed. Most have a mildly raised temperature and absent or very reduced rumen movements. They can have a slight bloat and a stiffish gait. Veterinary diagnosis and a successful treatment in this first 48hrs can usually be straightforward. Most of these signs will improve over a couple of days. Some cows can make a complete recovery even without treatment, but a significant number will go on to have a grumbling peritonitis with abscesses, poor milk yield and loss of condition. Some will develop infections which are fatal. This can be rapid when the wire passes into the heart itself.

In our practice initial treatment for individual cows typically involves the introduction of a magnet, which is designed to lodge in the reticulum. This is administered with a course of antibiotics. Chronic cases are more difficult to treat and longstanding cases are often unresponsive. Till recently we operated on all cases of TRP on the day of diagnosis. Surgery in the first 48hrs of disease is generally successful in 90% of cases. There is evidence (even since the early 1960s) that treatment with magnets and antibiotics will give as good an outcome. Surgery is useful to establish the type (and source) of the foreign body which has caused the problem and in cows where there isn’t a quick response to treatment, but we no longer routinely operate on cases of TRP.

Nowadays most wires come from tyres which have disintegrated on top of the silage pit or have been inadvertently put either precision chopped or whole into the feeder wagon. It is very important
to check and dispose of any tyres with deterioration and take care to avoid getting any into the feeder wagon!

Years ago the main problem was fence wire and this has been improved by the addition of magnets and metal detectors to forage harvesters. Ash from bonfires may also contain metal fragments and these areas need to be fenced off.

Magnets can be given to all the cows in a herd in the face of a major problem. Magnets are a cheap one-off treatment and are worthwhile even on farms with quite a low incidence.

The way cows eat, means that some individual cases of TRP are probably inevitable, but larger outbreaks can be avoided, with straightforward precautions.