Redgut in lambs post docking

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Introduction
This practitioner paper is associated with a small number of deaths in lambs following docking with mesenteric torsion being the identified cause. This case has an abnormal presentation with cases of mesenteric torsion (Redgut) classically being in weaned lambs grazing high quality lucerne or clover dominant pasture swards. It is likely that the logistical management of mobs during docking or treatment during the docking procedure led to the development of mesenteric volvulus. The definitive cause remains unknown.

Farm data
425 ha.

Winter stocking rate 2013
- 2000 Mixed Age (MA) ewes
- 640 ewe hoggets
- 200 1 yr Friesian bulls (normally 400)
- 200 2 yr Friesian bulls

2013 Scanning 140% (normally 165%)
2013 Docking 125% (normally 140%)

1st September start of lambing. Average pasture cover 2013 visually estimated at 1000kg DM/ha.

This property experienced very poor pasture production throughout the start of 2013 due to significant drought. A warm winter gave above average winter/early spring pasture production but feed covers were below target.

Docking history, logistics, and procedure
Docking of all MA ewes and lambs occurred on 8 October 2013. Hoggets were docked at a later date. Historically docking has occurred on a very similar date each of the previous years and was carried out with very similar logistics and procedure as previous years. The farmer reported that a small number of lambs are found dead post docking every year but were first necropsied in 2013 due to the new farm worker being extremely keen to find out the cause of death.

Mustering for docking starting on 7 October with a few paddocks being brought forward towards the yards into separate large holding paddocks and laneways. All docking occurs in the main yards which are located relatively centrally in the farm with approximately one third of the farm area on the southern side of the yards and two thirds on the northern side of the farm. All docking mustering is done by a neighbouring farmer, who is locally and
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nationally renowned as a ‘top dog trialist’ and extremely competent stockman. Only heading dogs are used during docking mustering. Mobs at docking are reported to have been very settled and well “mothered up” coming into the yards.

Throughout the day of 8 October four lambs were noticed dead in the main holding paddock on the northern side of the farm. These noted dead lambs could have come from any of the mobs that had been through that holding paddock but were not present prior to any mobs being docked. Overnight a mob of single scanned ewes and lambs were left in this northern side holding paddock. A grand total of seven dead lambs were found in this holding paddock on 9 October. On 9 October a further three lambs were found dead in a large holding paddock on the southern side of the farm. This holding paddock had two mobs moved through it the day of docking with no dead lambs seen. Overnight this southern side holding paddock contained a mob of 298 ewes and 532 lambs. Three of the 10 dead lambs were presented for autopsy on 9 October.

Lambs were docked through a roller docker set up. The roller docker does not have the automated release system. All lambs were ear marked, and tails removed with a hot iron, male lambs were castrated with standard elastrator/ring techniques. Scabine vaccination and Cyromazine spray dip was given to all lambs. Ewes all received an oral benzimidazole/levamisole combination anthelmintic drench. Lambs enter the roller docker on their backs with the hind limbs entering first. They travel down the roller docker receiving the above treatments and then exit by being pulled by the hindlegs in a purposeful swing motion that leads to a “half backward somersault” to land on all four limbs. The dead lambs found within the paddocks have all been docked.

Necropsy

The three dead lambs were all in good body condition and estimated 12-15kgs in weight. All three lambs had the following findings:

• Severely reddened intestines, starting from 20cm distal to pylorus through to terminal colon.
• Clockwise torsion (viewed from above with lambs on back - ventro/dorsal direction) of the mesenteric root
• Moderate levels of clotted milk in abomasum.
• Minimal ruminal development.
• No sex data of lambs autopsied or found dead was compiled.
• Histology was carried out for completeness and revealed: Diffuse, marked, transmural congestion and oedema of the intestinal wall with superficial mucosal necrosis. Multifocal tubular mineralisation of the kidney and neutrophil sequestration of the liver sinusoids.

Discussion

The presentation of immediately docked 1-5 week old lambs is certainly an unusual one for mesenteric volvulus. As stated in the introduction weaned lambs on high quality lucerne or clover dominant swards is the normal presentation. The hypothesis with the classical presentation is that lucerne/lush pastures induce smaller rumen size, increased large intestinal fermentation and size which leads to the mesenteric torsions seen with Redgut (Gumbrell 1997, West et al. 2009).

A different form of ‘Redgut’ in young lambs has been previously described by Penning et al. (1971) whereby death has been suspected to be caused by infectious aetiology. The deaths occurred in lambs aged 16 to 42 days of age reared artificially at the Grassland Research Institute, Berkshire UK. They had colloquially named their disease process “Red Gut” due to the diffusely reddened small intestine. The lesions occurred with haemorrhages in the mucosa of the small intestine and submucosa of the left ventricle. No lesions were noted in the large intestine and no mesenteric volvulus was noted. *E coli* and *Clostridium welchii* were cultured from many of the cases they investigated. The age distribution is similar with this case farm’s ‘Redgut’ issues but the aetiology and pathology appear different.

Docking of lambs in our client base occurs from September through November each year. Many properties utilise portable yards or small satellite docking yards in which docking occurs. Very few clients tend to muster all stock to the central yards as done in this case farm. Occasional deaths are reported post docking among our client base
but we do not hear of scenarios similar to this case farm. The causative factors leading to mesenteric volvulus is unknown in this case however treatment either during the docking process or increased mustering and movement are likely to be linked to the development of mesenteric volvulus.

Although a low proportion of deaths at 0.6% the value of these 10 lambs this year in this system is approximately $1,000. As only three out of the 10 noted dead lambs were necropsied it is possible that some of the other deaths were due to another cause. It is also possible that further losses occur due to Redgut after lambs and ewes are returned back to their ‘set stocked’ paddocks and not noticed. The farmer in this case is adamant that these post docking deaths are occurring each year although this year’s deaths were higher than normal. If all of these deaths are due to Redgut then it becomes an on-going cost to the business that cannot be managed with vaccines or the like. Further examination is warranted on this farm to monitor the health of lambs during docking and follow up any leads that may highlight factors involved in the development of mesenteric volvulus in this age group of stock.

References


Penning PD, Treacher TT, Woods AJ. Intestinal haemorrhage syndrome in artificially-reared lambs. The Veterinary Record. 613-615, 1971

West DM, Bruere AN, Ridler AL. The Sheep Health, Disease and Production, 3rd Edition. NZVA, 2009
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