



Hepatic Necrosis in Neonatal Beef Calves Spring 2022

Overview:

25 cases of hepatic necrosis in neonatal beef calves were identified spring 2022 in the west.

Clinical signs:

These varied but included inability to rise, depression and in some cases neurological signs.

Laboratory findings:

11 were identified at UCVM DSU, largely in late February and early March 2022.

Of these, for 7 liver and kidney were sampled, having toxic levels of copper reported from liver or kidneys or both. However, our understanding is that ultimately these high levels were attributed to the degree of hepatic necrosis with resultant free copper and its impact on the kidney.

14 were identified at PDS, in April and May. Of these, of 5 had livers sampled, with either normal or high normal levels of copper, which was attributed to oral supplementation.

Not every calf received the same workup, but several were identified with infections of pathogens such as rotavirus.

A common feature was widespread hepatic necrosis, an unusual finding in this population.

Mineral and other oral supplements in case herds:

1. UCVM cases:

- These originated from 3 separate Alberta beef cow-calf farms (and all the cases out here so far have been beef cow-calf; no dairy or veal cases that we know of).
- Since the first two affected farms identified both used an oral vitamin supplement on their neonatal calves, this was followed up by UCVM, including getting an analysis of the ingredients of the product used on one of the farms.
- Eventually this supplement was not considered a significant risk factor for hepatic necrosis cases at UCVM as the analysis of the product tested was normal, and the third affected farm identified did not use any oral supplements on their calves.



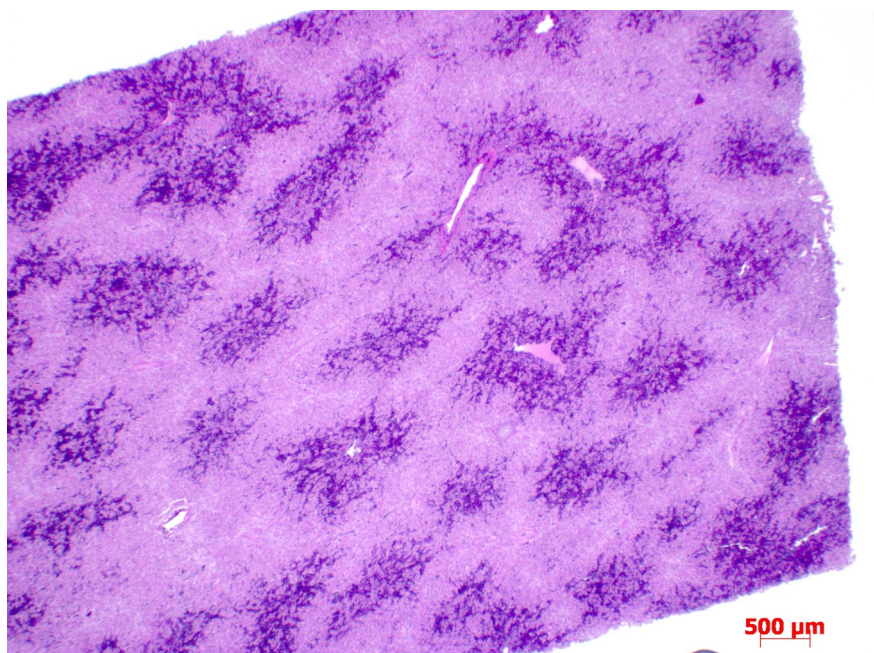
2. PDS cases:

- These originated from 9 separate beef cow-calf herds in Saskatchewan and eastern Alberta.
- Only one affected herd submitting samples to PDS to date has reported use of an oral vitamin supplement in their calves. A mineral package analysis was done on this affected calf's liver, with magnesium, manganese, selenium and molybdenum levels categorized Normal, iron High Normal, and cobalt, copper, and zinc all categorized Marginal. (
- Similar analyses were done on 7 other calves seen by PDS with hepatic necrosis for which we have information, from other

3. Québec cases, fall 2022

MAPAQ has shared 2 cases of neonatal hepatic necrosis

- One had an oral vitamin before colostrum given only to females : no male died. The Company said the vitamins must be given after colostrum and they have herd mortalities with it given before colostrum.
- The other case was a veal calf which received an injectable vitamin from the same Company.



WeCAHN is interested in learning about any additional cases .

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