

# PICORNA VIRUS IN LAMAS

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In the January/March '97 period we had 10 abortions. Other pregnancies were due in July and August, by several different males. One pregnant female died earlier, just wasted away, nothing helped. We do not know if she was part of the problem. In addition, several animals stopped eating and lost weight, some seriously. There was no cause obvious to either us or our veterinarian, Dr. Linda Morris of West Mountain Animal Hospital in Shaftsbury, Vermont.

A lot of testing was done. Feeds were checked (there was an imbalance between copper and molybdenum, but it wasn't the problem). CBC blood tests were normal. Then it was time to look for exotic stuff. Dr. Morris became a welcome member of our family. Hundreds of tests were done, re-done, and done again. No one could have worked harder than Linda!

The first breakthrough came partially as a result of knowledge of a problem encountered in Pennsylvania last year. We tested bloods and urine for glucose. Some results were off the scale - over 700 when 100 is normal. In two of our females the glucose was so high that there was no way to control blood sugars - they couldn't be saved.

Drs. Stehman and DuBovi of Cornell also became family. They were bulldogs in isolating the virus. Other infections were ruled out - toxoplasmosis, an abortive disease carried by cats was not the problem. Leptospirosis, brucellosis, and Johne's Disease, among others, were all checked without result.

The virus isolation efforts by Dr. DuBovi were wonderful, and they continue. It was he who was able to identify the isolated virus as a part of the Picorna family, and he determined that it was the cause of our problem. He has now tested lama bloods from many parts of the East coast, and from other species. It turns out that ours was not an isolated event, as we now understand it. Evidence has now been found in other species, and llamas in other places, some without signs of illness.

Once the virus was isolated, it was possible to test our whole herd by testing for antibodies which are evidence of exposure. Many of our llamas now carry the antibody (a positive titer), but did not show signs of illness. By the time we could do this, our herd was on the mend. Only the most seriously ill had pancreatic problems and lost as much as 25% of their body weight. There does not appear to be a long term effect. Females that aborted are now breeding and carrying normally. One, Rosie, carried a cria right through the whole problem and is now re-bred.

Fantasia and Pavane, our ladies that didn't make it, were generous in their final act. To isolate the virus it was necessary to test multiple tissues, requiring a necropsy. Now there is no evidence that the virus is contagious, so that period has passed.

In general, there is no protection except vaccination against a virus. Those that go Picorna were healthy, productive, problem-free llamas. Animals that were new to us did not catch the virus, while our "old" girls that had been here for a few years all got it to a greater or lesser degree. We do not

understand these differences. The initial tests are simple - pancreas function tests, usually blood and urine sugar.

Picornavirus is very real. Animals that have had the virus (a high titer) are probably immune. We do not know the period for which they were contagious. This may be an excellent subject for lama medical research, perhaps to the point of developing a vaccine.

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