

A New Name for an Old Disease

One of the known alpaca diseases that you may not have heard of, but should be aware of, is **Mycoplasma Haemolamae**. It has been detected since the 1990's and was called Eperythrozoonosis or EPE. Recently the name has changed, but it's still the same disease. Alpaca health is very important to an alpaca business. Educating yourself about this disease will help protect your investment. If you have an animal that is lethargic with chronic weight loss, you should consider Mycoplasma Haemolamae as a possible cause.

This past weekend we lost Hillery, the first alpaca that we bought in Jan. 2004, to the blood parasite that attacks red blood cells (RBC) in camelids, causing moderate to severe anemia and potentially death in debilitated animals. Current studies by Dr. Susan J. Tornquist DVM at Oregon State University Diagnostic Laboratory (OSUDL) has resulted in a new polymerase chain reaction (PCR) test to detect the presence of Mycoplasma haemolamae even at low levels of parasitemia. For background information on this blood parasite and detection, Google "Mycoplasma+alpacas" for numerous articles.

Hillery has been an excellent production female for us, giving us four female crias during her time with us. Hillery had been losing weight over the past couple of months, which we attributed to last year's cria still nursing and reduced winter forage in the pastures. We began feeding Hillery grain pellets twice a day for the past several weeks, and wormed the entire herd with Lavamasole a week ago Saturday. Her weight was still declining, and we planned to have Dr. John Walla DVM out to the ranch the next week to evaluate her condition.

On Saturday, after moving the other females and crias to the pasture and returning to the paddock to feed Hillery, I found her down lying on her side with her neck arched back, apparently dead. When I lifted her head, she opened her eyes, and I could see there was still life in her. I called my wife, and we rolled Hillery over into a cushed position and held her head up. We brought some feed, which Hillery devoured hungrily – she never lost her appetite! Having eaten something, she seemed a little stronger and could hold her head up on her own.

Dr. Walla was out of town and unavailable that weekend, so I contacted Dr. Ben Buchanon DVM, who has had previous Camelid experience and was able to make a ranch visit to care for Hillery. She was very weak, her anal temperature didn't register on either the digital or mercury thermometers ($T < 90$ Deg), her lungs sounded clear, and her heart rate was steady if not strong. After collecting blood and fecal samples, Dr. Ben gave Hillery several injections, including thiamine SQ and Omeprazole IM to prevent acid buildup in the stomach and ulcers.

We carried Hillery into a small room in the barn, to get her out of the wind and cold, covered her with blankets, and put a heating pad between the blankets to increase her core temperature. Dr. Ben felt that antibiotics (LA-200) would not be effective at this time. However, following microscopic examination of the blood smear, Dr. Ben determined that

Hillery was moderately anemic (12% RBC; reference 25 – 30%) and that the blood parasite was present on the RBCs, as compared with photomicrographs on the Internet. Fecal sample test was negative. See Figure.1.

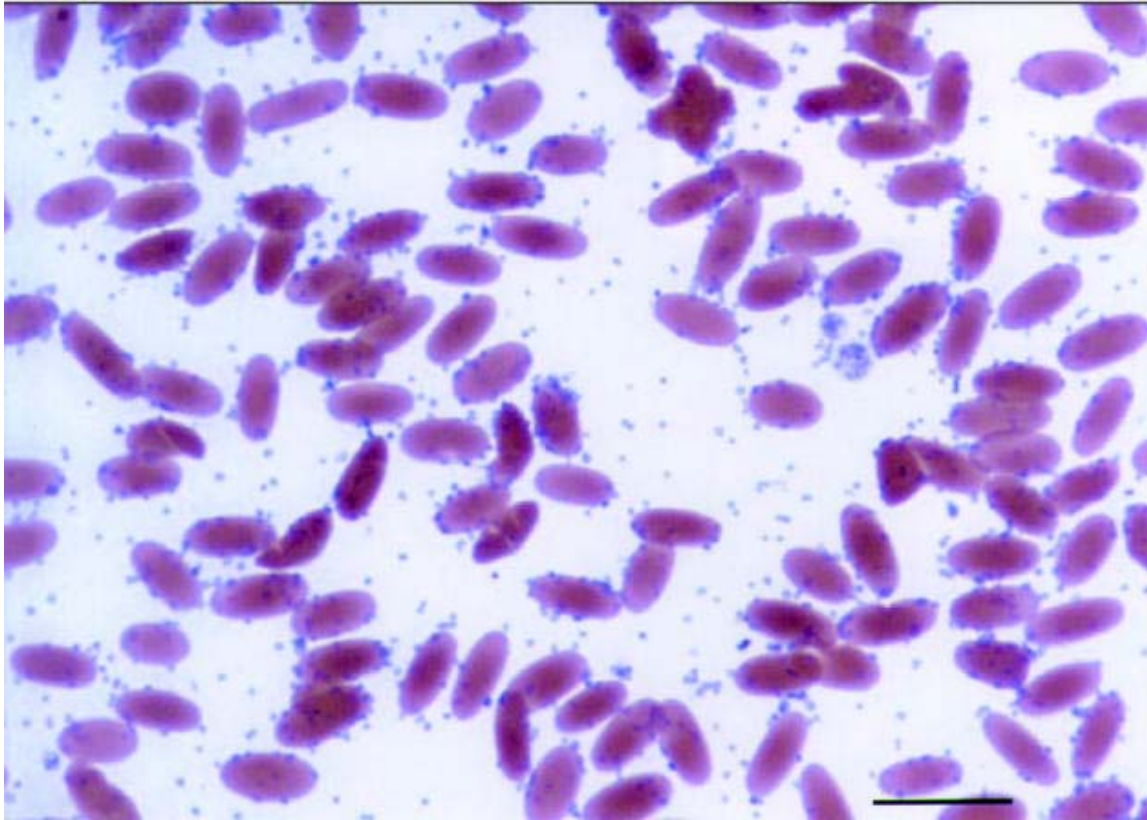


Figure 1

Peripheral blood smear from a 4-day-old cria illustrating the light microscopic appearance of *Mycoplasma haemolamae* and massive erythrocyte parasitemia. Notice the numerous organisms on the surface of the erythrocytes [red blood cells], as well as in the plasma space.

Note that camelid red blood cells are oval rather than round, as in other mammals. This gives them a larger surface area so there is better oxygen exchange which helps them survive at higher, thinner air altitudes in their native South America. Camelid red blood cells have a lifespan of 235 days vs 100 days for human red blood cells.

The treatment of choice for *Mycoplasma haemolamae* is tetracycline (LA-200), and Dr. Ben telephoned to recommend a daily regimen of 7ml LA-200, 2ml Thiamine, and 1ml Omeprazole. He also would send the blood sample to Oregon State University Diagnostic Laboratory for the PCR test to confirm the diagnosis.

Saturday evening Hillery seemed a bit stronger, still cushed but holding her head up and looking around as I entered the room. She had passed two bowel movements, and after cleaning up the poop her anal temperature registered 93.3 Deg, still cold but warming up.

She was eating grain and hay, and had water to drink. Sunday morning she was still cushed with her head up looking around. She had passed four bowel movements, and her anal temperature now registered 98.8 Deg – nearly back to normal.

We rotated the blanket Hillery was cushed on so that she now faced the door and could see outside. When she saw the green pastures and the other alpacas grazing, her eyes brightened up as if she wanted to be out there with them. We thought that she might get up on her own, but she stayed cushed. We tried to encourage her to get on her feet, but we could not raise the 150 Lb alpaca.

After that, Hillery just seemed to give up on life. She turned her neck to the left and laid her head down on the blanket alongside her stomach. We tried to pick up her head and support it upright, but each time we let go it fell back to her side. I checked on Hillery about every 15 minutes while working in the barn, and she never changed positions. One time I observed her shifting her shoulders a bit, but the next time I looked in on her she was dead.

Quoting from an article by Dr. Tornquist DVM (OSUDL), from studies based on grants from the Morris Animal Foundation and the Alpaca Research Foundation:

“An eperythrozoon is a little bacterium that affects the red blood cells. It actually sits on the red blood cells and the immune system sees that as a problem and figures it has to take out the red blood cells and destroy them. It can lead to severe anemia or mild or moderate anemia particularly in animals that are stressed or immune compromised.”

“The organism probably does not kill animals – at least [not] by itself. We see it more often as complicating factor in other diseases, and in that sense it’s worth figuring out more about it and how to prevent it.”

“Dr. Tornquist says that since it was first described in camelids in 1990, we still don’t know much more about camelid perythrozoonosis. We still don’t know how it’s transmitted.”
[Biting insects are suspected as a vector for transmission.]

“Tetracycline is the treatment of choice, but what is unclear is if the tetracycline actually makes the organism go away, or if it doesn’t just suppress the disease to undetectable levels. Then, if an animal carrying these low levels of the organism gets stressed by shipping or by some other disease, the eperythrozoon can start multiplying again.”

In the majority of alpacas infected with this bacterium, there are no signs of the disease. If your animal becomes immunocompromised through another one of the alpaca diseases or is stressed from a move or through other environmental changes, *Mycoplasma Haemolamae* can rear its ugly head. Camelids are very stoic animals, and will try to keep it from you if they are experiencing any problems.

The disease can manifest as an acute problem, as it did with Hillery. Your alpaca may suddenly be unable to stand and be extremely weak. Or it may be a chronic problem -- your alpaca may have chronic weight loss and lethargy.

If you suspect infection with *Mycoplasma haemolamae*, have your vet do a PCR (polymer chain reaction) test, or send a blood sample to OSUDL for testing. This test amplifies the DNA, so that low levels of the bacteria can be detected on the red blood cells.

This is one of the alpaca diseases thought to be spread by blood. Blood sucking insects such as lice, fleas, flies, and ticks should be kept to a minimum on your farm. Only use a new clean unused needle on each individual alpaca when giving injections. Needles are cheap. There is no reason to reuse a needle on another alpaca and risk the chance of transmitting a disease (besides, you dull the needle after the first use and it hurts more).

Mycoplasma Haemolamae is treated with tetracycline. Check with a vet for doses. Unfortunately, it appears that tetracycline does not completely rid the infected animal of this bacterium, but only lowers it to undetectable levels.

Once infected, an alpaca becomes a carrier. They will not have problems with the disease unless they become immunocompromised. This is an opportunistic bacterium. The problem with having a carrier in your herd is that a flea could bite the carrier and then bite another animal passing on the bacterium.

If you suspect *Mycoplasma Haemolamae* in an alpaca, you should probably test your whole herd and treat any animal with positive PCR results. Otherwise, you could have a re-infection of the disease. We understand treated animals usually go on to live a long healthy life. Even though they have not gotten rid of the disease, they can live with it.

It's important to evaluate alpacas when sheared or learn [body scoring](#) so you can spot a thin alpaca before purchasing. You should, also, require a PCR test before purchasing. The *Mycoplasma Haemolamae* carrier may look fine, but you bring them home and they infect your herd, causing problems.

The unusual shape of an alpacas red blood cell makes understanding alpaca diseases a challenge to veterinarians. *Mycoplasma Haemolamae* is thought to be in 25% of camelids (alpacas and llamas) in the United States.

More studies are being done to try and eliminate alpaca diseases. Until something better is found for *Mycoplasma Haemolamae*, keep the insect population down on your farm and test and treat to keep it in check if present.

When we receive the results of Hillery's PCR test from OSUDL, we will develop the plan moving forward, possibly doing fecal and blood PCR tests on the entire herd. We will let you know progress as it develops.

Anita & Mickey Gross

A&M Alpaca Ranch