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Covering Southeastern, Mass and Cape Cod

Published by Clipper Press

E-MAIL: editor@petgazette.net

ADVERTISING: 781-934-2811 x23 or ads@petgazette.net

VOLUME 13 NO. 6

"Old age means realizing you will never own all the dogs you wanted to." - Joe Gores

JUNE 2010

Why is your pet gecko going blind?

About twenty years ago a father and son brought their leopard gecko to me because its eyes were cloudy, and it had stopped eating. They were sure the 'leo', as the owners of these pets refer to them, was blind. There was a thick crust of material that resembled dried skin on top of each eyeball. I wasn't sure whether this came from the shed skin around his eyes or whether this was a primary eye problem. It affected both eyes equally which suggested a full body problem.

In veterinary parlance, if just one eye is affected then it suggests one set of diseases and if both eyes are affected it suggests a different set of diseases. So I wondered whether this was a genetic defect, a nutritional disease, some physiological event, or a body wide infection. I didn't know, so I treated the leo with topical ophthalmic ointment and a systemic antibiotic. In the end the leo remained blind.

So a year goes by, and another client, a young couple actually, brings me a leopard gecko with exactly the same problem. "Well, hey," I say to them. "I've seen this before and we did such and such, but unfortunately it did not work." In the end, in this case, the gecko got a little better. The eyes were permanently damaged but there was some sight so the patient could eat on his own, with just a little help from the nice couple.

I saw this disease about once a year for 15 years or so. Every once in a while a client would bring me a leo with crusty, caked in eyes. I began to refer to it as the 'your gecko might go blind syndrome.' I learned more about it each time I treated it, and got more successful at getting the geckoes to see better.

Here is the conundrum: This was a once a year disease in my practice. Now, today, I see this disease every other day. What? I see this sometimes as many as two to three times a day. If you figure I see patients about 220 days a year, this is approximately a 100-fold increase in the incidence of this disease in my practice.

So what is going on here? First, let me tell you what I've learned over the years about this disease. There are, by the way, some well-written diagnostic and care suggestions on the internet. And, just like the internet, there are some that are not very good. I recommend the web site for the Arizona Exotic Animal Hospital www.azeah.com, the part on Leopard geckoes-eye problems.

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A slightly dehydrated 'Cameron' Kelly of Boston, does his best to avoid a refreshing bath.

What I know now is that this is triggered by dysecdysis, which liberally translated means, the little leo is having trouble shedding its skin. Conventional wisdom says that all reptiles periodically shed their skin as they grow. Sometimes the growth is so minimal that the shedding probably can be triggered by some other physiological events.

To understand this process you have to first know that the skin (our skin, their skin, any skin) is made of layers and layers of different kinds of cells. So even though it seems thin, from a microscopic point of view, it is layers and layers of cells that loosely act like sheets stacked on sheets. The bottom sheet is one kind of cell, a couple of layers up is a different kind of cell. When you get to the surface, that last couple of layers out acts like a tight 'spandex body suit.' When a gecko sheds an 'old skin', a 'new outer skin' is ready to take its place directly beneath it.

When it is time for the shedding to commence, lymph fluid leaks from the body through the skin cells and accumulates between the old skin and the new skin. The old, outer skin absorbs some of this wetness and its spandex-y self gets all loose and stretchy. Now, this old skin looks like an old woman's hot weather housedress—loose, worn and almost see through. The new, deeper skin uses this wetness to shine itself up, lubricate its surface and make itself expand to the reptile's new buff body.

Then wham, in the case of the leo, she sticks her tongue up and out and licks this loose house dress older skin off her face. And she eats it, all of it, nose to tail. Eats the shed skin right off her body! It is good protein, and when you live in the deserts of Pakistan and Afghanistan, where leopard geckoes come from, it is a 'waste not, want not' environment.

By the way, snakes and lizards generally shed their skins by the same process. Most do not eat their skins, though. Instead they leave them lying around the fields and woods for those kids who still play outdoors to find them. We, too, (us people) shed our skins, but in a flake by flake, too-little-to-eat set of daily events.

So what's happening to the leo that is losing its eye sight? Most likely this is being triggered by too little quantity of lymph fluid to separate the outer old skin and the new inner skin. So instead of the housedress being peeled off the buff but lubricated inner skin, a gooey lymph fluid that has too little water in it is sticking the two skins together. In the case of the eye, the skin that resides right up to the eyeball, even to the inner surface of the eyelid is getting stuck where it accumulates.

So ultimately, the gecko is dehydrated. When its shedding is interfered with because there is too little moisture in the body, there is also too little moisture on the inside of the eyelids. So, the shed gets stuck. Not all is lost, because leopard geckoes clean their eyes, believe it or not, by licking them with their tongues. But when the water count is way down, even the saliva gets dry. Once this old shed skin sticks to the inner surface of the eyelid, it is just a matter of time before a new old shed happens. Shed by shed these skins build up, and in short shrift this mess sticks directly to the surface of the eyeball.

These stuck pieces of skin are also great food for bacteria. It's moist, lots of nutrients, and protected away from marauding white blood cells that circulate in the blood stream.

This series of events creates an artificial, albeit pathological, eye cap that if untreated will rot the eye socket and the eye beneath it, leaving the gecko blind.

Veterinary treatment is straightforward. Apply ophthalmic ointments directly to the accumulated shed skin to lubricate the area and to decrease the bacteria. A systemic antibiotic helps decrease bacterial infection at the eyelid. Then, when as little damage as possible can be done to the corneal surface of the eyeball, remove the eye cap.

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Gecko owners, by and large, can prevent this disease by bathing their leos in warm (it should not feel hot) neck deep water two to three times a week for 15-20 minutes. I have read and heard lots about complicated set ups: heat gradients, humidifier and drip systems, mazes, tunnels, timed light systems and such.

To me, keep it simple. Keep your leo on paper towels, in a container (plastic tub, glass aquarium) with a heating pad under half of the container. Give it a hidey-hole (a tissue box on its side with a side cut out) and a mild, low power UVB screw-in, clip-on spotlight. Feed it once a day or every other day (crickets, roaches, meal worms) and supplement it once a week directly into its mouth with calcium and Vitamin D3 powder mixed in water. Bathe it three times a week. It is a great time to interact with your pet.

Now, let's get back to the point of this article. Why am I seeing this disease 100 times more often than I used to? Are there that many more gecko owners than there used to be? Is it something genetic that predisposes leos to dehydrating more than they use too? Are gecko owners doing something today that they didn't do way back when? Is it an infection that triggers dehydration? I have no idea. I am, though, interested in what you have noticed or what you think might have changed over the past twenty years.

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