NBC Case Study: Star Dancer: A Cria Born With Cataracts

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Dr. Mary Utter was charmed the moment she saw her patient in late January, 2010. Star Dancer was a three-month-old cria (baby alpaca) with big beautiful eyes — but it was those eyes that caused the concern. They weren’t dark and glossy the way the eyes of a cria should be. Star Dancer’s eyes were cloudy at the center. This baby was born with cataracts.

Cataracts are familiar to most of us. According to the World Health Organization, cataracts are the leading cause of serious vision impairment in humans around the world, causing, in 2002, an estimated 47.9 percent of all blindness. Although commonly believed to be a function of age, a cataract technically is any opacity of the lens in the eye and can occur at birth or develop with age for a number of reasons. The problem has been reported to occur in many species and the degree to which they impair vision is quite varied from insignificantly to completely.

Assessing Star Dancer’s Condition

In Star Dancer’s case, she appeared to be almost totally blind from birth. At home she clung close to her mother and was disinterested in interacting with the other crias in the herd. Though they reported that she could get around “well enough” and her vision wouldn’t impact her function as a producer of fine fibers, owners Jim Bajzath, Bonnie Belfiore and Doug Kittrell felt that Star Dancer’s quality of life was compromised. And so, they came to New Bolton Center to investigate the possibility of cataract surgery.

People often have cataracts removed and artificial intraocular lenses inserted during the same surgery because restoring perfect visual acuity is important in people. We need sharp vision to do everyday things like read and drive.

In veterinary medicine, however, “the significance of visual acuity is dependent on the needs of the animal,” said Dr. Utter. At New Bolton Center, horses undergo cataract surgery because sight is such a crucial part of so many of their activities. (Imagine jumping a five-foot ditch with compromised depth perception, or negotiating a racetrack at 45 miles an hour with fuzzy vision.)

But there is another reason that leads people to pursue cataract surgery for their animals: quality of life. The same individuals who have their cataracts removed and corrective lenses implanted are frequently electing to have the same surgery performed on their dogs. And, reports Dr. Utter, a large portion of her equine patients are those horses that would no longer be considered performance animals but are beloved pets when receiving the benefits of cataract surgery, simply because their owners believe it would enhance their quality of life.

In camelids, the family of animals that includes camels, llamas and alpacas, the surgery is not commonly elected because these animals are not as often considered as pets. In Star Dancer’s case, however, her owners believed that the ability to see, even if imperfectly, would greatly enhance her quality of life. Artificial lenses are commercially available for dogs, cats and horses but they aren’t available for camelids; without an artificial lens, the patient would be quite far-sighted postoperatively.

Since she began practicing, Dr. Utter, a board-certified veterinary ophthalmologist, has performed eye exams or surgery on a pit viper, crocodile, Siberian tiger, hyacinth macaw, kangaroo, zebra, chinchilla, as well as domestic pets and farm stock. Her practice has been limited to New Bolton Center since 2006, and here she has operated almost exclusively on equines, bovines and, yes, camelids.

The Diagnosis and Surgery

When Star Dancer arrived at New Bolton Center, at only three months old, she presented in general good health. An ophthalmic examination revealed an absence of a menace response, where the hand is rapidly pushed towards the eye without making contact; a normal response would be to blink or pull back at such a threat. Dazzle and pupillary light reflexes in both eyes, however, were positive, suggesting that the retina was functioning
The eyes appeared to have no abnormalities other than the cataracts, and the likelihood that the cria’s vision would be corrected with surgery was good. In her stall, Star Dancer walked in circles, her head tilted upward. Routine phacoemulsification, the process by which cataracts are broken into microscopic pieces and removed from the eye, was recommended.

The surgery, even though it is a common procedure, is technically challenging, demanding extreme precision. The patient is placed under general anesthesia and a neuromuscular block is used; the globe needs to be positioned in a precise way; any movement could compromise the quality of the surgery. Performed under a surgical microscope, a small incision, about the diameter of a pencil eraser, is made in the cornea, described by Dr. Utter as “the windshield of the eye.” The cloudy portion of the lens is broken down through phacoemulsification, using high-speed ultrasound, and then aspirated from the eye. The opening is closed with an absorbable synthetic suture material about the diameter of a human hair.

**The Outcome**

The positive response to the cria’s surgery was thrilling for Dr. Utter and the rest of the surgical team.

“As soon as Star recovered from general anesthesia, we could see a difference,” said Dr. Utter. “She was responsive to a menace test, interested in her environment and began investigating her surroundings almost immediately.”

The cria, however, was still in a delicate position. She received systemic and topical antibiotics and anti-inflammatories before and after surgery and throughout her two-day hospitalization. Medication was given intravenously to protect against gastric ulceration that could result from both the stress of hospitalization and the systemic medications. She was sent home with topical antibiotics, steroidal drops and atropine. While her prognosis for continued good vision, though far-sighted because no artificial lens was inserted, was excellent, it was emphasized to the owners that post-operative complications, including uveitis, glaucoma and corneal edema, were still possible and could be both painful and result in blindness. Star Dancer’s at-home care and daily monitoring were of utmost importance.

When Star Dancer returned to New Bolton Center one week following surgery, Dr. Utter found that she was bright and seemed to be seeing well. A mild amount of corneal clouding and low intraocular pressure were observed; these were deemed appropriate following cataract surgery. Another recheck two weeks later showed continued improvement.

**Aftercare and Updates**

Star Dancer’s owners reported that as soon as she returned home she began investigating her surroundings for the first time with her eyes instead of her nose, mouth and ears.

In a recent update, six months after surgery, Doug said, “Star can see, but her peripheral vision is not as good. She gets lost once in a while if the herd heads to the barn and she doesn’t notice because she has her head down grazing. When she picks her head up and looks around, she gets a bit nervous. The key, though, is that she looks around.”

Her sight appears to be best when focused on something that’s moving. “When she is playing with the spring crias, she runs right with them and tracks them fine,” said Doug. “It was worth it to have the surgery. It makes her quality of life better and makes managing her much easier. One of the reasons we had the surgery performed was we were in the process of moving and knew that a complete change of environment for a blind alpaca would require a lot of extra management and monitoring. Star Dancer adapted to her new surroundings as quickly as any of the other alpacas in the herd. It warms our hearts to see she no longer runs in tight little circles, but instead pronsks in long leaps through the pasture with the other young alpacas.”

“This isn’t necessarily a story of an innovative or particularly uncommon surgery,” said Dr. Utter. “But it is a story that emphasizes so clearly the impact that we as veterinarians can have on the quality of an animal’s life. It has been so rewarding to get updates on how much we were able to make a difference for Star.”