

Scientific Report

Restore to good health in baby turtle, *Trachemys scripta elegans* with chronic anorexia and blind eyes

Akbari, S.

Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran

Correspondence: S. Akbari, Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran. E-mail: akbari@shirazu.ac.ir

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Summary

As the first case, a baby red eared slider turtle, *Trachemys scripta elegans*, 1.77 inches long, with a 4 month history of anorexia and blind eyes was referred to the Aquatic Animal Clinic, School of Veterinary Medicine, Shiraz University, Iran. The eyes of the pet were swollen and he was not active in swimming and feeling around. In the clinic, after stress treatment, he was kept in a clean aquarium containing a rock for him to get on. Water temperature in the aquarium was set at 27-29°C. As the basic treatment, the animal was fed with trash fish and shrimp minced with cod liver oil during treatment. As its eyes opened, the baby turtle was treated with a drop of ciprofloxacin (%0.3 ciprofloxacin hydrochloride) eye drop two times a day for prevention of any secondary infections. The case was diagnosed as vitamin A deficient baby turtle. It was restored to good health after three weeks following the prescribed treatments. The results of the investigation of this case show the need for special care in the feeding of baby turtles as they are kept as pets.

Key words: Baby turtle, Blind eyes, Anorexia, Vitamin A deficiency

Introduction

Trachemys scripta elegans one of the famous terrapins in the world, is a semi-aquatic turtle of the family Emydidae, order Testudines. It is one of the subspecies of the pond sliders (Seidel, 2002). The distribution pattern of these subspecies is disjunct due to: (1) their release in various locations and (2) their faithfulness to home ranges once they have established themselves. Terrapins are attractive pet animals, although they can present trouble, due to their dimension and nutritional behaviors. It should be remembered that since the 1970s, the sale of turtles less than 4 inches long has been banned in the US by the government, once a connection was found between turtles and *Salmonella* infections, especially in children (Gangarosa, 1985). Nevertheless, as with other turtles and tortoises, terrapins as pets live over 40 years, which means they need care over a long duration.

It is supposed that *T. s. elegans* have been imported to Iran by the ornamental fish

hobbyist. The brood stocks of *T. s. elegans* are kept in the natural fresh water sources of Kashan, Esfahan which is one of the famous cities busy with the production of ornamental fish in Iran. Also, the *T. s. elegans* babies may be imported together with ornamental fish by aquarium suppliers from overseas. The babies are distributed in Iran by aquarium shops. As a new pet in Iran, most *T. s. elegans* keepers do not know how to care for this animal, especially due to its food and feeding habits. Malnutrition in terrapins is a disorder which is generally encountered with vitamin A, D3 and calcium deficiencies. Usually, in *T. s. elegans* blind eyes are accompanied by anorexia, and hypovitaminosis A is the most probable disorder which initiates swollen eyelids and even respiratory infection (Jackson and Cooper, 1981; Frye, 1991). Hypovitaminosis A is rarely seen in turtles less than six months of age as the yolk normally contains enough vitamin A to nourish the turtle for several months. As this supply of Vitamin A is depleted, the turtle must eat foods with

adequate amounts of vitamin A to prevent the related symptoms, as presented in the case which was referred to the Aquatic Animal Clinic, School of Veterinary Medicine, Shiraz University.

Case history

In the middle of April, 2008 a *T. s. elegans* baby 1.77 inches long was referred to the Aquatic Animal Clinic, School of Veterinary Medicine, Shiraz University by some members of a family who worried about the long time illness of their pet. The animal had closed and swollen eyelids (Fig. 1). It was inactive when put in water and did not feel around. Using an illuminated magnifying glass the animal did not react to concentrated light illuminated to its eyes. The eyes did not show exudation discharge or other gross signs indicating bacterial eye infection. According to his keeper, the *T. s. elegans* suffered anorexia for a period of four months and they mostly worried about its blindness and low activity which suggested it was going to die. According to the keepers the turtle was being kept in a sophisticated aquarium designed for semi-aquatic turtles at room temperature, using dichlorinated fresh water to change the aquarium water.



Fig. 1: Blind eyes of the red eared slider, *Chrysemys scripta elegans* which was referred to Aquatic Animal Clinic, School of Veterinary Medicine, Shiraz University, Iran

Treatment

In the clinic, to reduce the stress responses of the animal due to its illness and transportation, the turtle was temporarily put in a beaker filled with a 1/1 volume of fresh water and normal saline for 30 min. It was

maintained in an aquarium filled with clean fresh water containing a rock to get the baby turtle on during treatments. As a poikilotherm animal, the metabolic rate of the *T. s. elegans* was raised by gradually increasing the water temperature of the aquarium to 27-29°C. The basic treatment of the case was the incorporation of its main diet which was trash fish and shrimp with cod liver oil as a natural and excellent source of vitamin A, tasty for aquatics. The case was fed with this diet two times a day. Sterile normal saline was used to try and open the fused eyelids twice a day by rinsing. The eyelids of the animal were opened slightly after a week, and rinsed with sterile normal saline. Secondary eye infections which might cause bacterial eye infection were prevented by dropping one drop of ciprofloxacin (0.3% ciprofloxacin hydrochloride) eye drop two times daily for the following week.

Results

Based on the documents, the baby *T. s. elegans* was under the proposed length for sale to keepers. It was diagnosed as a vitamin A deficient baby turtle. It achieved its healthy condition as shown in Fig. 2 and Fig. 3. As the figures show, the baby turtle's eyes returned to normal condition. It was active in swimming, getting on the rock and feeling around as something was exposed it.

Discussion

Aquatic and semi-aquatic turtles are popular as pets in some countries. The most



Fig. 2: Healthy eyes of the red eared slider, *Chrysemys scripta elegans* was diagnosed with hypovitaminosis A, treated by adding cod liver oil in his main diet as the basic treatment



Fig. 3: Restored to good health in red eared slider, *Chrysemys scripta elegans*, medicated with cod liver oil in his mean diet. He was diagnosed with hypovitaminosis A

well known is probably the *T. s. elegans*, although there are several other species which are kept as pets (Klemens, 2000). Usually, turtles are sold to people who have little or no idea how much care turtles require, including large tanks, special lighting, and good filtration, lots of cleaning and special feedings.

Blind eyes accompanied by anorexia are the most probable disorders which initiate swollen eyelids in *T. s. elegans*, and it may become more complicated, causing respiratory infection. According to Jackson and Cooper (1981), vitamin A deficiency is a common occurrence in captive turtles sold in aquarium shops. Collective expression of squamous metaplasia of mucin-secreting epithelial structures associated with the eyes, pharynx, and upper airway and lower respiratory passages have been described as a definitive manifestation of vitamin A deficiency in such turtles (Frye, 1991). Nevertheless, following the stepwise treatments arranged for the referred case to our clinic in this report, a qualified veterinarian could treat a similar case, which is the main disorder in keeping chelonians. The other trial which is suggested in treating vitamin A deficiency in turtle is

administration of vitamin A by intramuscular and/or subcutaneous injections. This trial should be performed by a qualified veterinarian where the injection of vitamin A in overdose may produce bone, liver and skin damage.

The results of the investigation of this case show the need for special care in the feeding of baby turtles as they are kept as pets. The length of the baby turtle referred to our clinic facility was 1.77 inches. It was under the ideal length proposed for sale. The terrible health condition of the referred case to our clinic in this report showed that better experience is needed for keeping turtles.

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