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ACASE STUDY

A case of carapace fracture in an Indian star tortoise (*Geochelone elegans*)

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Abstract : Star tortoise's (*Geochelone elegans*) is found in the Indian sub-continent and most popular because of its importance in exotic pet trade. A stat tortoise male of age 4 years weighing around 700 g was presented to the zoo veterinary hospital with a fractured carapace. Routine clinical examination was done and the animal was examined. Clinical examination revealed that the animal had a fracture carapace and many bits of carapace were missing. The broken shell was reconstructed using a non-irritant, fast curing epoxy compound additionally antibiotics and anti-inflammatory drugs were given. The animal was maintained at the in patient ward at the zoo veterinary hospital. Progressive healing of the fractured carapace was observed by 50th day. Additional review was conducted monthly and the animal has shown an uneventful recovery.

Key words : Carapace, Fracture, Healing, Epoxy

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INTRODUCTION

Star tortoise (*Geochelone elegans*) is one of the most important species that has the highest trade value in Southeast Asian countries. Carapace fracture are the most common orthopaedic involvement in these animals due to predator attack, human conflicts, accidental or faulty handling. Stat tortoises are generally terrestrial and are known herbivores. Management of carapace fracture is a challenging task and is time consuming. The therapeutic managemental measures are discussed. The carapace of the Indian star tortoise is variably convex, with humps and having a straight lateral margin with overall observable serrations.

Case history and observation :

Four years old 700 g weighing female star tortoise that was identified because of the flat plastron with a history of fractured carapace was presented to the Zoo Veterinary Hospital, Arignar Anna Zoological Park, Vandaloor, Chennai. General clinical examination revealed a fracture carapace and many bits of missing carapace *viz.*, marginal

and vertebral were found missing. And also the animal was found to be dull and lethargic.

RESULTS AND DISCUSSION

The animal was taken to the operation theatre immediately, focus lamps and infra-red lamps were focused on the animal's body in order to increase its temperature as chelonians can regulate their own body temperature at POTZ (Preferred Optimal Temperature Zone). For tortoises the POTZ is 26 °C to 38 °C. Reptiles have a varied biological physiology, being cold blooded lot of precautions should be taken while dealing with a reptile patient. The entire carapace was cleaned, non-aligned pieces were taken out. Epoxy assisted closure technique (Mader, 1992) was applied to successfully reconstruct align and place the missing fragment of the fractured carapace to form a stabilized outer covering.Tortoise shell has a remarkable ability to repair even a large defect if aggressive, supportive care is provided (Millichamp, 1988 and Frye, 1991). The complete shell healing may take upto one to two years depending on intensity of the damage (Millichamp, 1988; Lawton and stokes, 1992; Mautino and Page, 1993 and Clayton *et al*., 2003). Tortoises with healing fractures should not be allowed to brumate (Hibernate) (Heard, 1999) as this reduces the entire BMR thus, limiting normal physiological process. The tortoise was administered Inj. Flunixin meglumin @ 0.1 mg / kg I/M, qid, body weight (Gauvin, 1999) and Inj. Enrofloxacin @ 5mg / kg body weight (Raphael *et al*., 1994). The animal was moved to the inpatient ward and was monitored. The wound was cleaned . . . . . th day post injury. Review was done once in 15 days and animals shows progressive healing at the sites of injury on the 50th day. Occasionally, 1 per cent chlorhexidine was used to clean the upper surface of carapace. Additionally one ml of ostopet R was administered daily that contains calcium 16.5 mg/ml and phosphorus 8.5 mg/mg to enhance healing. This technique of management of carapace fractures can be easily adopted in field conditions and it also serves to be a cost effective method. However, healing is affected by various factors and can be time consuming.

LITERATURE CITED

Clayton, L., Mylniczenko, N. and Greenwell, M. (2003). *Review of etiology and treatment options for non-traumatic deep shell lesions in freshwater turtles,* p 103, Proceedings of the Association of Reptilian and Amphibian Veterinarians Annual Conference, 2003.

Frye, F.L. (1991). *Biomedical and surgical aspects of captive reptile husbandry,* Ed ^{2}, Melbourne, Fla, 1991, Krieger Publishing.

Gauvin, J. (1999). *Drug therapy in reptiles, Semin Avian Exotic Pet Med* 2:48-59, 1993. Heard DJ: Shell repair in turtles and tortoises: an heretical approach, Proceedings of the North American Veterinary Conference, 1999.

Lawton, M.P.C. and Stoakes, L.C. (1992). Surgery. In : Beynon PH, Lawton MPC, Cooper JE, editors: Manual of reptiles, Mader DR: Shell repair in turtles and tortoises, *Vivarium,* 4 -9pp.

Mautino, M. and Page, C.D.(1993). Biology and medicine of turtles and tortoises, *Vet. Clin. North Am. Small Anim. Pract.,* **23**:1251.

Millichamp, N.J. (1988). Surgical techniques in reptiles. In : Jacobson ER, Kollias GV, editors: *Contemporary issues in small animal practice: exotic animals,* 1988,Churchill Livingstone, NEW YORK, U.S.A.

Raphael, B.L., Papich, M. and Cook, R.A.(1994). Pharmacokinetics of enrofloxacin after a single intramuscular injection in Indian star tortoises *(Geochelone elegans), J. Zoo Wildl. Med.,* **25** (1) : 88-94.