Carapace Fracture in a Turtle - A Case Report

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Introduction

Shell injury is one of the most common problems encountered in wild freshwater turtles. These injuries appear to arise mostly from road traffic accidents, but can also result from predator attacks. Occasionally, pet turtles endure shell fractures after falls, as they are avid climbers or trodden on. Shell injured turtles can be very difficult and time-consuming to repair and manage. The length of time in care that is required for sufficient healing can be upwards of 1-2 years. One of the biggest problems with managing shell wounds in semi-aquatic turtles is wound care - specifically maintaining the turtle out of its usual water environment. This is due to the fact that aquatic turtles generally require immersion in water to eat and drink.

Case History and Clinical Observation

A turtle weighing around 2kg was presented to the Department of Veterinary Surgery and Radiology with a history of fall from 30 ft height on the previous night. Physically the animal appeared dull and was not able to move its hind legs. Clinical examination revealed fracture of the dorsal carapace with protrusion of coelomic membrane along with internal organs (Fig-1). On radiography (42kVp, 10mA) there was fracture of dorsal carapace without any injury to the spinal chord (Fig-2).

Treatment: Immediately administered Dexamethasone @ 4mg IM and Meloxicam @ 0.1mg/kg body weight IM. Butorphanol tartarate was given @ 2mg/kg body weight subcutaneously at the neck region for analgesia and sedation. The wound was thoroughly cleaned with betadine in normal saline in the ratio 1:100.After cleaning the protruded structures was replaced back into the body cavity using a sterile gauze .Then the animal was placed in a warm water bath maintained at 25 degree celsius for 20 minutes to get it rehydrated (Fig-3). Later 1% Metronidazole ointment was applied over the wound .The broken carapace was put into alignment and was fixed using an adhesive (Feviquick). The wound was bandaged with sterile guaze and water proof adhesive tape (Fig-4). Advised oral administration of Clavam syrup 5 drops twice and Visyneral syrup 3 drops twice daily. Suggested to place the animal in the water bath regularly and to bring for weekly checkup.

After first week animal was taking food normally but could not regain the movement of hind limbs completely. The wound was found to be slightly infected. The wound was again cleaned and rebandaged .After 3 weeks the animal was completely active. The fractured part was cleaned and the carapace was again fixed by applying bone wax and adhesive. Review was done every fortnight and after 3 months the animal was ambulatory with progressive healing of fractured carapace.

Discussion

Watt, 2005 reported that if injuries are confined to the upper carapace only, and there is no evidence of

Fig.1. Fracture of the dorsal carapace with protrusion of coelomic membrane along with internal organs

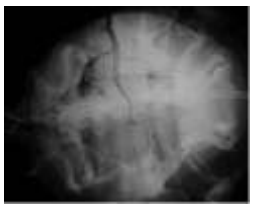

Fig.2. Radiograph (42kVp, 10mA)showing fracture of dorsal carapace without any spinal injury.

Fig.3. Turtle placed in warm water bath maintained at 25^{0}c

Fig.4. Wound bandaged with sterile guaze and water proof adhesive tape

head trauma, then the turtle can be placed on a shallow tepid water @ 25°C for 10 – 20 minutes. This may give the turtle sufficient time to drink. Flushing the wound with 0.1% povidone iodine act as a good antimicrobial action while enhancing the maintenance of tissue viability (Mitchell and Diaz, 2004). McArthur and Hernandez (2004) explained three standard radiographic views for turtles which include dorsoventral, lateral and craniocaudal projections. Reiss (1999) reported the use of permanent or semi-permanent sealants like epoxies, resins, glues, cements, acrylics as occlusive semipermanent dressings in carapace fractures. There are many factors to consider in shell fracture repair in semi-aquatic freshwater turtles. The method of adhesive tape stabilization offers a relatively simple application of readily available and inexpensive material.

References

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