

CONSERVATIVE MANAGEMENT OF SHELL FRACTURE IN STAR TORTOISES AND A SOFT SHELL TURTLE

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SUMMARY

Three Star tortoise and one turtles approximately weighing 2 to 3 kg were presented at Veterinary Clinical Complex, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Anand with history of automobile accident. On clinical examination damage confirm to carapace and plastron without any damage or wound on other body parts. The fracture sites were properly cleaned with betadine in normal saline. After application of Inj. Lignocaine HCL topically on protruded tissue and fracture sites, the carapace was aligned in normal position and the shell was fixed via adhesive glue (Feviquick). Postoperatively the fracture site was properly bandaged with sterile gauzes and waterproof adhesive tape. All tortoise and the turtle were given Inj. Meloxicam @ 0.1 mg/kg and Inj. Dexamethasone @ 4 mg/kg and Inj. Enrofloxacin @ 5 mg/kg intramuscularly on the day of presentation. The owners advised to give regular water bath daily till healing and Syrup Clavum (Amoxycillin 125 mg plus Clavulanic acid 31.2 mg; Alkem Laboratories Ltd.) five to ten drops and Drop Melonex ten drops twice a day orally for seven days. Healing of the fractured carapace and plastron were seen within two and half months of time without any complications.

Keywords: Shell Fracture, Tortoise, Turtle

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Chelonian shells act as a shield for the internal organs to protect from injury and infection but also provides an anchor for muscles, serves as an essential mineral reserve and prevents the loss of body heat and fluids (Synniewski *et al.*, 2016). Carapace fracture are the most common orthopaedic involvement due to predator attack, human conflicts, accidental or faulty handling lead to carapace fractures which is challenging task and is time consuming for healing (Allwin *et al.*, 2017). There are various techniques for the repair of the shell fracture according to extent of damage and long period of healing up to 1 to 2 years. This paper presents a shell fracture repair and its management by using local anaesthesia and adhesive glue (Feviquick) in there three star tortoise and one soft shell turtles.

Three Star tortoise and one turtles approximately weighing 2 to 3 kg were presented at Veterinary Clinical Complex, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Anand with history of automobile accident. On presentation all tortoises and turtle were active and walk while kept on surface. Clinical examination revealed fracture extending from anterior to posterior left pleural carapace (Fig. 1), from right pleural to marginal carapace (Fig. 2), tissue protruded from junction between humeral and pectoral plastron (Fig. 3) in three tortoises and fracture from posterior pleural shell to anterior pleural shell and another to posterior vertebral shell in turtle (Fig. 4). In all tortoise and turtle were confirmed damage with to carapace and plastron without any damage

or wound on other body parts.

The fracture sites and protruded tissue were properly cleaned with betadine diluted with normal saline in tortoise and turtle. After application of Inj. Lignocaine HCL topically on protruded tissue and fracture sites the protruded tissue was replaced back in the body of turtle and alignment of carapace were made and fixed with adhesive glue (Feviquick) which applied only on shell with extreme care to avoid entry in to underlying tissues and cover with sterile gauze and waterproof adhesive tape tightly (Fig. 5 and 6). All tortoise and a turtle were given Inj. Meloxicam @ 0.1mg/kg and Inj. Dexamethasone @ 4 mg/kg and Inj. Enrofloxacin @ 5 mg/kg, intramuscularly on the day of presentation. The owners were advised to give regular water bath daily till healing and Syrup Clavum five to ten drops (Amoxycillin 125 mg, Clavulanic acid 31.225 mg/5ml) and Drop Melonex ten drops twice a day orally for seven days. On follow up after seventh day bandages were removed and after antiseptic dressing, again bandaging was done which was repeated weekly in all tortoise and turtle. Healing of the fractured carapace and plastron were seen within two and half months of time. There were no any complications reported during period of healing.

Allwin *et al.* (2017) treated shell fracture under general anaesthesia by orthopaedic wire and apoxy assisted technique in tortoise. Pothiappan *et al.* (2014) and Joy *et al.* (2015) used same glue (Feviquick) for the treatment of carapace fracture in turtles. In the present paper local anaesthesia was used to reduce the risk of

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Figs. 1-6. (1) Left pleural carapace fracture; (2) Right pleural and marginal carapace fracture; (3) Tissue protrusion and fracture of humeral and pectoral plastron; (4) Fracture of pleural and vertebral shell; (5) Application of adhesive tap; (6) Application of adhesive tap

general anaesthesia and also the glue is cheap and readily available in market. The application of adhesive glue along with local anaesthesia was found safe, inexpensive and easy techniques for the management of shell fractures in chelonians along with tight bandaging. All the tortoise and turtle were recovered without any complications.

REFERENCES

Allwin, B., Jothi, S.B., Kumar, V.N. and Pradeep Nag, B.S. (2017). A case of carapace fracture in an Indian star tortoise (*Geochelone elegans*). *Vet. Sci. Res. J.* **8(1&2)**: 77-78.

Joy, N., Jhala, S.K., Dar, M.U.D., Mathai, R., Patel, A.M., Patil, D.B., Kelawala, N.H., Parikh, P.V. and Joshi, D.O. (2010). Carapace fracture in a turtle - A case report. *Vet. World.* **3(7)**: 337-338.

Pothiappan, P., Palanivelrajan, M., Thangapandiyan, M., Suresh Kumar, R. and Muthuramalingam, T. (2014). Carapace fracture and its management in a red-eared slider turtle (*Trachemys scripta*). *Ind. Vet. J.* **91(09)**: 86 – 87.

Sypniewski, L.A., Hahn, A., Murray, J.K., Chalasani, V., Woods, L., Piao, D. and Bartels, K.E. (2016). Novel shell wound care in the aquatic turtle. *J. Exot. Pet Med.* **25(2)**: 110-114.