

Surgical management of phallus prolapse in an Indian star tortoise (*Geochelone elegans*)

Abstract

A three year old male Indian star tortoise was presented at Referral Veterinary Polyclinic, Indian Veterinary Research Institute (IVRI), Izatnagar, an institute under Indian Council of Agricultural Research (ICAR) with a history of straining, constipation, anorexia and a swollen protruding mass below the vent from last two days. Condition was diagnosed as phallus prolapsed. Therapeutic approach involved manual repositioning of the prolapsed penis with help of fingers after cold pack and lignocaine jelly application under Ketamine and Midazolam general anaesthesia. Purse string suture was applied using polyamide (3-0). Antibiotics and glucocorticoids were administered post operatively. The animal made an uneventful recovery.

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Introduction

The Indian star tortoise is a threatened tortoise species and has been listed as Vulnerable on the International Union for Conservation of Nature (IUCN) Red List. Reptiles have a single chamber, in which faeces and urine are deposited before being voided and in this same chamber sperms pass in male, egg in female. The penis (phallus) of male chelonians is a solid tissue organ with no lumen.^{1,2} Surgical management of penile (phallus) prolapse is a common procedure in captive male chelonians.^{2,3} It has been reported as a sequel to constipation and neurological dysfunction. Paraphimosis can be a consequence of inflammation of the mucosa of the penis and/or cloaca (cloacitis), metabolic disorder (calcium deficiency), or congenital anomalies.⁴⁻⁷ Standard treatment protocol of penile prolapse starts with gentle cleaning of the debris off the mucosal surface and reduction of the volume of swollen tissues. Then a minor surgical approach can be used: mechanical reposition of the penis into the cloaca, or penile amputation. Decision is made according to tissue viability of the prolapsed organ.⁶⁻⁹

Case history and clinical observations

A 3 year old rescued male Indian star tortoise, weighing 340 gr was referred to the Institute Referral Veterinary Polyclinics with complaint of light pink mass sticking out from the vent. The rescuer noted that the tissue protruded after mating two days ago. Loss of appetite was observed the next day after mating, but defecation and urination was normal. Close examination revealed that the protruding mass from the vent was prolapsed penis (Figure 1).

Surgical Management

The induction of general anaesthesia was performed by intramuscular administration of 20 mg/kg Ketamine and 1mg/kg Midazolam. Computation was based on one-third of the total live weight, the remaining two-thirds being the weight for the shell, carapace and plastron. Under general anaesthesia, the animal was taken into dorsal recumbency. Phallus and cloaca was cleaned with normal saline. Further volume of the swollen mass was reduced using sugar mixture and ice pack application. Topical application of silver sulfadiazine cream was done. Penile tissue was gently replaced into its normal anatomical position using 3-0 polyamide suture in purse string manner (Figure 2). Enrofloxacin (10 mg/kg) and meloxicam (0.3mg/kg) was administered intramuscularly for 5 consecutive days

postoperatively in divided doses. During postoperative process, no complications associated with feed intake, urination and defecation were observed. As prolapse can be parasitic in origin, for precautionary measure animal was kept in diluted Betadine solution. The purse string suture was removed on the 7th postoperative day.



Figure 1 Prolapsed penis of an Indian star tortoise.



Figure 2 Reposition of prolapsed penis in its normal anatomical position under Xylazine-Ketamine anaesthesia.

Discussion

Paraphimosis tends to occur in chelonians that are constipated or have been straining.¹⁰ The exact cause of phallus prolapse was unknown. Prolonged straining leads to prolapse of cloaca and phallus/oviduct.¹¹ Various other aetiologies for phallus prolapse are chronic low blood calcium, straining to urinate, defecate or neurological dysfunction, excessive libido, trauma and obesity;¹² dystocia, intestinal parasitism, cloacaliths, uroliths, neoplasia, a space occupying lesion in the coelomic cavity and foreign body.¹³ It is also being reported to be due to excessive straining in order to removal of foreign bodies such as smaller stones accidentally ingested by the turtle.¹⁴ Oedema was controlled with the application of cold compresses which was also suggested by Norton¹ and Barten². Prolapse through the vent in reptiles and amphibians can include reproductive, digestive, or urinary tissues, making treatment a challenge.^{15,16} Raut et al.¹⁷ treated a case of cloacal prolapse by applying Estriol cream. Wide spread of captive breeding has increased the number of reproductive problem. In the present case manual reduction followed with purse string suture under ketamine and midazolam general anaesthesia provided the satisfactory result for the management of cloacal prolapse and the animal made an uneventful recovery.

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None.

Conflicts of interest

The authors declared no have conflict interest for the study.

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