

Successful recovery in cloacal prolapse in tortoise (*Geochelone elegans*)

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Abstract

A four-year-old female tortoise weighing 350 g was presented with a red-coloured oedematous mass protruding out of the cloaca, along with a history of anorexia and difficulty in passing faeces. It was affirmed to be cloacal prolapse. A therapeutic approach was planned accordingly. The patient was stabilized using analgesics, anti-inflammatories, and broad-spectrum antibiotics (Inj. enrofloxacin @10 mg/kg SC). The mass was well-lubricated with lignocaine jelly, gently pushed inside by digital manipulation, and guided via the use of a syringe cap. A purse string suture was applied around the peri cloacal vent rim. The suture was tight enough to prevent relapse without obstructing the normal passage of urine and stools. Rectal prolapse can be classified as either incomplete, i.e. where only the mucosal layer of the rectum is everted out, or complete, wherein all the layers are protruded outside the anus.

Keywords: Prolapse, Purse string suture, Tortoise

Highlights

- It is a rare case of cloacal prolapse in tortoise.
- No surgical intervention was performed.
- Treated with available resources with minimum expenditure.
- The technique used in the paper is field-applicable.

A 4-year-old tortoise weighing 350 g was presented to the Department of Veterinary Medicine, Mumbai Veterinary College, Mumbai, with a history of anorexia and tissue material protruding out of the vent opening since last night (Fig. 1). The tissue was inflamed, moist, oedematous, and flaring red in colour. There was no defecation since morning. The animal was bright, alert, and responsive during presentation, and it had good body condition. The mucous membranes and the hydration status were normal.

The tortoise was severely straining, wagging its tail, grunting, and exhibiting extension of the hind limbs. During handling, the tortoise bit the handler's wrist, which revealed pain exhibited by the tortoise. Upon physical examination of the patient, it was observed that there was a circular lumen, which was confirmed by probing with a clinical thermometer. The prolapsed mass was devitalized tissue since it was dry, excessively swollen, discoloured, and was not bleeding when manipulated.

The application of gentle pressure on the prolapsed mass resulted in the passage of a scant amount of faeces. This indicated that the prolapsed mass was a part of

the gastrointestinal tract (Page, 1993). The case was confirmed to be a cloacal prolapse, and accordingly, a further therapeutic approach to reside the mass back inside the vent was planned.

The patient was stabilized using analgesics and anti-inflammatories, i.e. meloxicam @ 0.4 mg/kg subcutaneously after dilution with 4 mL normal saline. Broad spectrum antibiotic, i.e. enrofloxacin @ 10 mg/kg, was also administered subcutaneously (Chitty and Raftery, 2013).

The tortoise was positioned in dorsal recumbency, and the prolapsed mass was prolifically washed with povidone-iodine (5%) solution diluted in normal saline.

The prolapsed mass appeared too oedematous to be replaced inside. A cold hypertonic solution (50% dextrose, 7.5% NaCl) was used to reduce the oedema of the tissue before repositioning via lubrication and gentle pressure to reduce the tissue back into the cloaca. The mass was lubricated well with KY jelly®, and lignocaine jelly was applied in satisfactory amounts (Fig. 2). KY Jelly® is a non-greasy water-based gel formula for lubricating purposes containing

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glycerin, hydroxyethyl cellulose, chlorhexidine gluconate, gluconolactone, methylparaben, and sodium hydroxide. The mass was then gently pushed inside by digital manipulation and guided finally via the use of a syringe cap (Fig. 3). Once the prolapsed mass was repositioned inside the vent, a purse string suture was applied around the peri-cloacal vent rim using polyamide no. 1-0. The suture was tight enough to prevent relapse without obstructing the normal passage of urine and stools. This was confirmed by passing the tip of one or two cotton-clipped applicators through the vent opening.

Postoperative care included the topical application of 5% povidone-iodine ointment over the surgical site twice daily for 7 days, inj. enrofloxacin (Bayrocin®) @ 10 mg/kg once daily for 5 days and inj. meloxicam (Melonex®) @ 0.2 mg/kg once daily for 3 days. There were no postoperative complications reported in terms of feed intake, urination, and defecation. The sutures were removed on day 7 after the surgery.

The most important aspect of prolapse management and elucidating prognosis is the identification of which tissue is prolapsed and whether that tissue is viable or devitalized. Prolapse, if not reduced immediately, can lead to organ desiccation and necrotic changes. It should, hence, be treated as an emergency. Young and fast-growing animals are at risk for cloacal prolapse secondary to nutritional secondary hyperparathyroidism and rectal prolapse secondary to endoparasitism. Cloacal prolapse may represent oviductal, phallic, rectal, or bladder tissue (Murthy *et al.*, 2018).

The exact etiology of cloacal prolapse is unexplored. Nevertheless, it can occur secondary to tenesmus, which may be connected with constipation, foreign body obstruction, infectious etiology, or endoparasitism in the gastrointestinal tract (Scott, 2007). An assay must always be made to recognize the underlying cause of the prolapse. The prolapsed organ must be identified. It may be the rectum, oviduct, bladder, penis, or the cloaca itself. Reproductively active females may prolapse the oviduct secondary to dystocia and egg retention and/or salpingitis. Reproductively mature males may exhibit phallic prolapse during the breeding season. Oviductal tissue is pink and has linear striations and a lumen from where faeces do not originate. Causes of oviductal prolapse include egg binding/dystocia and salpingitis (Martinez-Jiménez and Martinez-Jiménez, 2007). Rectal tissue is pink, lacks linear striations, and has a lumen from where stools can pass. In cases where there is an obstruction due to tissue swelling or

intussusception, no faeces will be produced. Causes of rectal tissue prolapse include endoparasitism, diarrhoea, and impaction/constipation. Phallic tissue is often pigmented, originates from the ventral aspect of the cloaca, and lacks a lumen. Causes of phallus prolapse include trauma to the phallus, excessive breeding activity, and hypocalcaemia. Bladder prolapse is the rarest form of cloacal prolapse. The tissue is pink, very thin, and lacks a lumen. Bladder prolapse is often secondary to urolithiasis.

In this case, upon gentle pressing of the prolapsed mass, the stools popped out of the mass. Along with digital manipulation, this gave us a clue that the affected tissue belongs to the gastrointestinal tract. The exposure of mucosal tissue to the external environment may scupper the circulation to that part, leading to oedema and ultimately, necrosis of the prolapsed tissue. Therefore, cloacal prolapse should be treated as an emergency, and it should be treated immediately (Jepson, 2015).

A prolapsed mass can be placed back easily using a lubricated finger, the tip of the clinical thermometer or via using a syringe cap. If there is severe oedema, an ice pack application or hypertonic solutions like 50% dextrose solution or glycerine or a mixture of both may be used. A purse string suture should be placed after the reduction of the prolapse back into the vent. In cases, involving recurrent prolapses following multiple reductions, colopexy can be performed to reduce the incidence. In cases where there is severe oedema and repositioning is difficult, celiotomy may be required. Celiotomy helps by applying traction to the colon for the reduction of the prolapsed tissue (Gibbons *et al.*, 2013). Amputation of the prolapsed mass can be considered as a last resort when everything fails. At the same time, in our patient, the above-complicated techniques were essential as purse string suture application came out to be bountiful in the flourishing result of the presenting clinical condition.

Conflict of interest: Authors have no conflict of interest in the study.

Author contributions: PH, MP: Conception and design; RGa, RGh: Acquisition of data; AB: Interpretation of the results.

Data availability statement: All the data supporting the research findings have been presented in this paper. The corresponding author is willing to provide the raw data upon reasonable request.

Cloacal prolapse in tortoise



Fig. 1. Inflamed, oedematous, moist, flaring red colour tissue mass protruding out of the vent opening



Fig. 2. The prolapsed mass was lubricated well with KY jelly ® and lignocaine jelly before repositioning



Fig. 3. Prolapsed mass was gently pushed inside the vent by digital manipulation and guided via the use of syringe cap

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