

Short Communication: Fatal Caeco-Colic Impaction in a Captive African Spurred Tortoise (*Geochelone sulcata*)

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Abstract: The carcass of a 26 year old African spurred tortoise with a history of anorexia of four days duration was presented for necropsy at the Department of Veterinary pathology, University of Ibadan. Necropsy revealed total obstruction of the caecum and proximal part of the colon with an entangled mass of polythene and cotton material, intestinal necrosis and haemorrhage, severe gastrointestinal congestion, pulmonary and hepatic congestion. Histopathology of the colon revealed severe diffuse necrosis and loss of epithelium, severe haemorrhage in the lamina propria, oedema of the submucosa and congestion of blood vessels in the lamina propria, submucosa and muscularis externa. There was severe congestion of the hepatic sinusoids. Although there have been several reports on the obstruction of the gastrointestinal tracts of captive tortoises with foreign materials such as gravel and corn cob; obstruction of the caecum and colon of African spurred tortoises with polythene and cotton material have not been reported. We hereby report a case of fatal caecum-colic impaction in a captive African spurred tortoise.

Key words: African Spurred Tortoise • Caecum • Colon • Impaction

INTRODUCTION

Gastrointestinal obstructions are commonly seen in captive and free ranging chelonians. Marine turtles are often found incapacitated with gastrointestinal obstruction by plastic bags. Captive tortoises, sequel to pica, may be presented with gastrointestinal obstruction by gravel stones or other indigestible bedding materials, such as corn cob [1.]. Cases of foreign body obstruction of the intestine in tortoises have been reported [2, 3.]. Intestinal obstruction in the absence of foreign bodies (due to neoplasia, intussusception or volvulus) has also been reported [4, 5.]. Clinical signs of gastrointestinal obstruction are non-specific and may include: anorexia and lethargy, straining and regurgitation of fluids and food. Cachexia and generalised debility is often seen in long standing cases and the affected animal may show clinical signs of advanced dehydration such as sunken eyes [1]. To the best of our knowledge, there is no report of caeco-colic impaction in captive African spurred

tortoise in Nigeria and this perhaps is the first report of caeco-colic impaction in the African spurred tortoise in Nigeria.

Case History: The carcass of a 26 year old African spurred tortoise from a zoological garden in Oyo state, Nigeria, was presented for necropsy at the Department of Veterinary Pathology, University of Ibadan. It had a history of anorexia of about four days duration prior to death. The animal died before veterinary care could be administered. A thorough postmortem examination was carried out. Tissue samples (liver and colon) were collected, fixed in 10% neutral buffered formalin for 24 hours and processed for routine histopathology using standard techniques [6].

Pathology: Grossly, there was total obstruction and impaction of the caecum and proximal part of the ascending colon with a large mass of entangled polythene and cotton material which weighed 350g (Fig.1).

The mucosae of the caecum and proximal colon were severely congested, necrotic and haemorrhagic (Fig.2). The stomach and small intestines contained about 800 mls of greyish watery mucus. The gastric, duodenal, jejunal and ileal mucosae were severely congested. The lungs and liver were also severely congested.

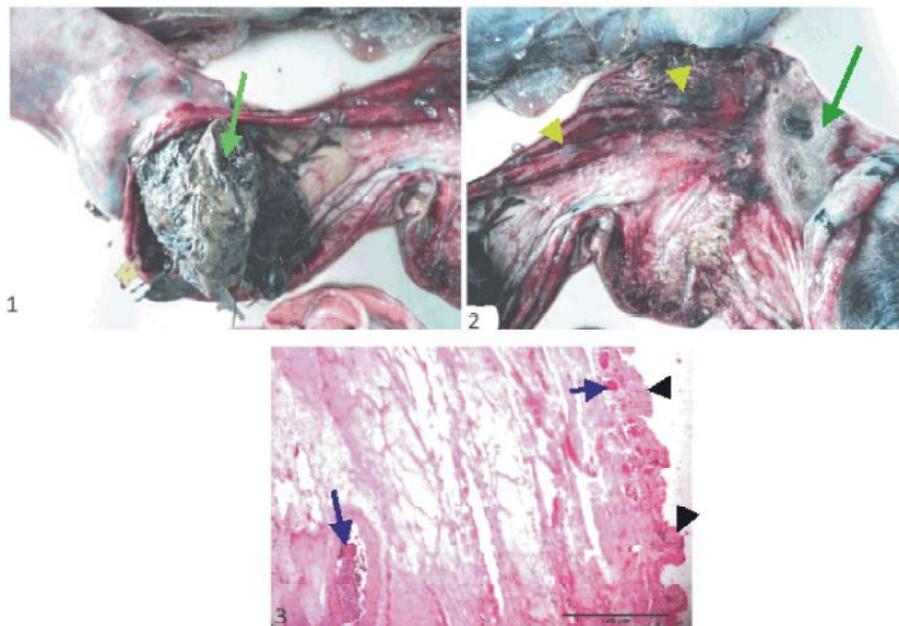
Histology of the colon revealed severe diffuse necrosis and loss of epithelium, severe haemorrhage within the lamina propria, oedema of the submucosa and congestion of blood vessels in the lamina propria, submucosa and muscularis externa (Fig.3). There was severe congestion of the sinusoids in the liver.

DISCUSSION

Impaction of the intestines with stones and sand has been reported in tortoises and turtles [3, 7, 8]. However, a report on large bowel impaction with cotton and plastic material in tortoises is scarce in literature. In the present case, the cause of death was foreign body obstruction and impaction of the caecum and colon. The foreign body consisted of polythene and cotton material. The potential sources of these kinds of foreign materials in the captive tortoise's environment are numerous. It is possible that the captive tortoise in this case was exposed to plastic food wrapping material, plastic sachet water waste and

cotton material that might have been dropped along with food material in the immediate vicinity of the animal's pen by zoo visitors. Sequel to this, the tortoise might have accidentally ingested these indigestible materials along with food, thereby leading to intestinal impaction. It is also quite possible that polythene material might have been transported by wind into the tortoise's zoo enclosure from distant sites. The authors were not able to determine the source of the indigestible materials. There is, unfortunately, no information on whether the ingestion of the indigestible materials by the tortoise is accidental or deliberate, however studies carried out on other chelonians, like the sea turtle has shown that both green sea and loggerhead turtles do not discriminate against plastic sheeting when they engulf food intermingled with plastic [9]. The study also revealed that hungry sea turtles will swallow almost any material of a suitable size and consistency and will continue to do so until satiation.

Taking into consideration the findings in this case, it is therefore pertinent that proper environmental hygiene be practiced in zoological gardens. The environment surrounding the tortoise enclosures must be devoid of waste materials (including polythene and cotton material). Zoo visitors must also be discouraged from feeding animals in the zoo and cautioned against littering the environment.



- Fig. 1: The colon showing a large mass of entangled polythene and cotton material (Arrow) obstructing the lumen.
Fig. 2: Caecum and proximal colon showing locally extensive necrosis (green arrow), congestion and haemorrhage (yellow arrow heads)
Fig. 3: Photomicrograph of the colon showing severe diffuse necrosis and loss of epithelium (black arrow heads), congestion of blood vessels (blue arrows) and oedema of the submucosa. (H&E. Scale bar=149 μ m

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