Surgical Management of Fracture of Tail in an Asiatic Lioness (*Panthera leo persica*)

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Injuries to tail or appendages may occur in all animals because of accidents, diseases, infighting, stampede and malicious attempts. In wild animals it is due to attacks by predators. Such attacks were very rare in captive wild animals that too, in big cats due to proper management or ferocity of animals in that group. As a result, tail may get fractured (Salim *et al.,* 2007), become gangrenous (Olatunji *et al.,* 2010) or at times may lead to haemorrhagic shock. If not treated early this may lead to myiasis, gangrene and even toxaemia. Tail amputation was suggested when medical therapy fails (Olatunji *et al.,* 2010). A case of fracture of tail associated with myiasis and its successful surgical management has been described.

Case History

An Asiatic lioness by name Jyothi at the Sri Venkateswara Zoological Park lost her tail up to upper 1/3rd due to infighting with a male, which was observed later which was evincing severe pain and haemorrhage soiling entire cage. Lioness became dull, dehydrated and off fed. The case was treated by the zoo veterinarian as an open wound. Ciprofloxacin, adrenochrome monosemicarbazone, and meloxicam were administered for 3 days. Animal was moved to a separate pen. Later the surgical wound dehisced due to self mutilation on 3rd day. Then it was infected leading to sepsis followed by myiasis.

Anaesthesia and Surgery

Prior to surgery, the animal was treated with amoxycillin and clavulanate potassium orally so as to combat infection. After 5 days the lioness was prepared for amputation of tail. The lioness was fasted for 18 hrs and anaesthetised using blow pipe with a combination of xylaxine and ketamine @ 200 mg and 400 mg, respectively. Complete anaesthesia was confirmed after 15 min. It was restrained in right lateral recumbency. The wound was thoroughly irrigated with 1:1000 potassium permanganate solution to remove tissue debris. As the 4th vertebra was damaged and infected amputation was planned at 3rd intercoccygeal space. The area up to 1st coccygeal vertebra was clipped, shaved, prepared aseptically and draped. A torniquet was applied at the base of tail. Flaps were raised by careful undermining after placing two U – shaped lateral incisions on tail stump starting from middle of 2nd vertebra and. The lateral and middle coccygeal vessels were ligated above the level of 3rd inter coccygeal space and these were reinforced by a circular transfixation suture around by chromic catgut no.2. The damaged tail was transected at 3rd inter coccygeal space. The torniquet was removed, checked for any bleeding points and cleaned with dilute povidone iodine solution. Skin flaps were closed with black braided silk in horizontal mattress pattern (Fig 1). Himax ointment (Natural Remedies, Bangalore) was applied on the suture line and padded with gauze bandage. Post operatively lioness was administered meloxicam 0.2mg/kg and ceftriaxone 3g i.m. which was repeated for next 5 days.

Fig 1: Lioness with amputated tail after surgery

Discussion

By virtue of its flexibility, tail is seldom fractured by direct violence and rarely warrants amputation as in the cases of ulcerating wounds, necrotic vertebrae, malignant tumour, etc. (O'Connor, 2004). Similar indications are also given for tail amputation by Thirumurugan *et al.,* (2004). Combination of xylaxine and ketamine resulted in satisfactory surgical plane of anaesthesia which was in conjunction with the findings of Singh *et al.,* (2005). A combination of ketamine and diazepam was tried in a leopard by Salim *et al.,* (2007). Amputation was performed at 3rd inter coccygeal space as the fracture site was at 4th vertebra. Similar procedure was also adopted in different occasions, at different levels viz, 5th in a lion (Olatunji *et al.,* 2010), 11th in tail of leopard (Salim *et al.,* 2007) and 8th inter coccygeal space in tail of a civet cat (Thirumurugan *et al.,* 2004). Good post operative treatment and untiring

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efforts of the zoo keepers helped the animal recover uneventfully.

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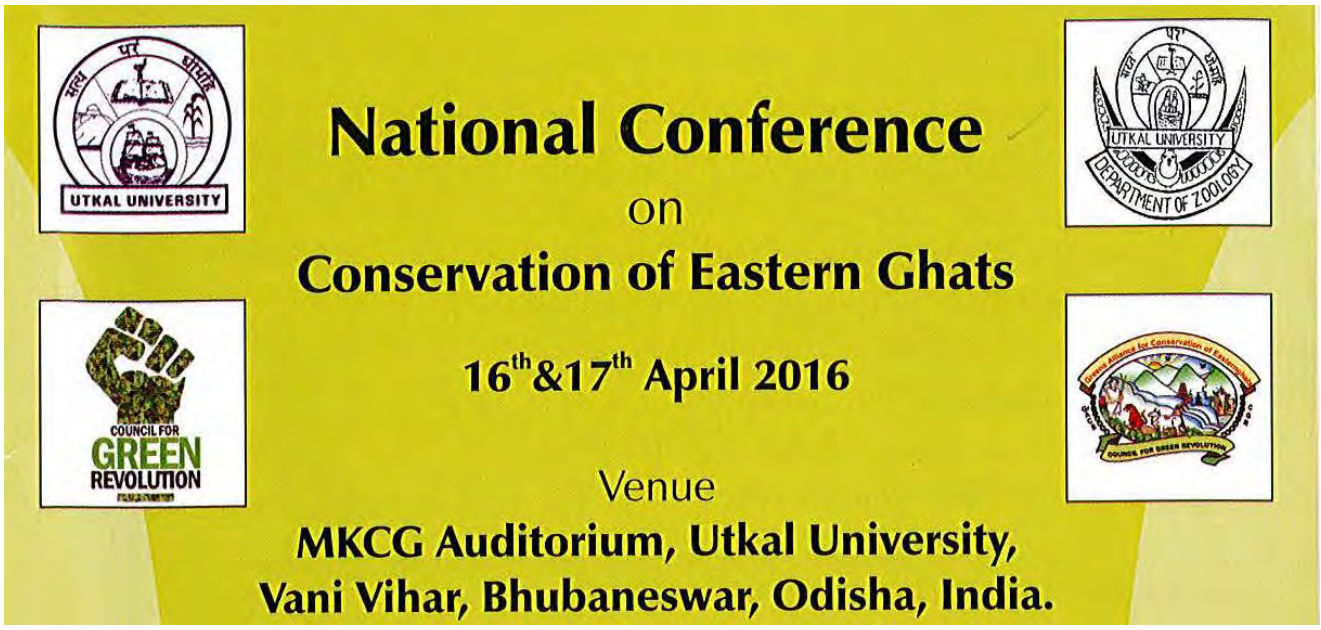

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