

Surgical Management of Temporal Bursitis in an Asian Elephant

K.K. Sarma¹, P.J. Nath, J. Kachari and B. Deuri

Department of Surgery and Radiology
College of Veterinary Science
Assam Agricultural University (AAU)
Khanapara
Guwahati - 781022 (Assam)

Abstract

A forty year old female elephant with history of firm swelling on right temporal area was presented. The case was diagnosed as chronic temporal bursitis. The surgical removal of bursa was carried out under standing anaesthesia with Xylazine and Ketamine premedication along with Atropine sulphate. The surgical wound was painted with Tincture of Iodine and regular dressing was done with Povidone iodine till complete healing. A course of antibiotic was administered for seven days. The animal recovered uneventfully and recurrence of bursitis was not recorded till two years after surgical management.

Keywords: Asian elephant; surgical removal; temporal bursitis

Introduction

Elephants with its enormous size, unusual anatomy and longevity are at risk for and succumb to a number of diseases (Mikota 2006) and temporal bursitis is one of them. In elephants, temporal glands are located beneath the skin midway between the lateral canthus of eye and external auditory canal in temporal fossa on either side of face (Fernando *et al.*, 1963; Estes and Buss 1976). The temporal gland is commonly also a site for abscess formation (Mikota 2006). Musth bulls also rub the temporal area on trees more often which lead to swelling due to temporal bursitis (Sukumar, 2003). Some elephants drop their head hard at the time of sleeping and if the floor is hard, it hits against the zygomatic bone which is lower boundary of temporal region, leading to bursitis.

History and Diagnosis

A forty year old female elephant weighing 2500 kg was presented with a large, firm, painless swelling at level of right temporal area. History revealed that swelling occurred approximately one year back with gradual increase in size with changing consistency from fluid filled cavity to a firm mass. The handler reported that the cow elephant had an abnormal habit of dropping the head hard on ground while lying down. On clinical examination, a large non fluctuating solid mass was noticed at lower margin of right temporal area (Fig. 1). General physiological parameters *viz.* temperature, pulse rate and

respiration were normal. The appetite and behavior of animal was normal. Two milliliter venous blood was collected from auricular vein for estimating routine haematological parameters (Hb, TEC, TLC, PCV and platelet count). Based on history and clinical examinations, the case was diagnosed as temporal bursitis and surgical bursectomy was planned to correct the condition.

Treatment and Discussion

The pre-operative haematological parameters were within physiological limits. The animal was kept off fed for six hours while *adlib* drinking water was allowed during the fasting period. The area around swelling was prepared aseptically as per routine manner and animal was positioned on a flat open area. A dose of Atropine sulphate @ 0.01 mg/kg b. wt. I/M was administered and after 15 minutes, standing anaesthesia was induced with Xylazine Hcl @ 250mg and Ketamine Hcl @ 200mg I/M (Sarma, 2001). The animal was kept undisturbed and only the handler was allowed to stand nearby. The desired level of sedation and analgesia was achieved after 25 minutes. The surface of bursa was infiltrated with 20ml of Lignocaine Hcl following which a 10cm long elliptical incision was made over the swelling and bursa was exteriorized and removed step by step from one end to the other (Fig. 2). Minor haemorrhages were controlled with haemostatic forceps and ligatures. After dissection of bursa, the pedunculated fibrotic masses was grasped at base and dissected out by application of clamp and ligation. Accumulated blood and debris were flushed out with normal saline. The cavity was then painted with Tincture of iodine. A seton soaked

1. Corresponding author.
E-mail: kushalkonwar@gmail.com



Fig. 1: Large and non fluctuating solid mass at temporal region (temporal bursitis)



Fig. 2: Surgical incision of bursectomy



Fig. 3: Closure of surgical site



Fig. 4: Recovered animal

in tincture of iodine was then placed into cavity and retention sutures were applied over skin using black braided silk No.2 leaving space for removal of seton and regular dressing (Fig. 3). Post-operatively, the animal was treated with Intacef Tazo^a (Ceftriaxone and Tazobactam) @ 13.5 g/ twice daily IV for 7 days with regular antiseptic dressing of surgical wound until complete healing took place. The animal recovered uneventfully and no recurrence was reported till two years after the operation (Fig. 4).

The causes of bursitis of temporal area are thought to be trauma or pressure exerted by animal over the bursa while lying down which causes swelling due to temporal bursitis. This condition is occasionally seen in elephants of either sex which have the habit of dropping their heads hard while lying down and in musth bulls which rub their temporal area on trees (Sukumar, 2003). Many methods of treatment of bursitis have been described in literature including its excision.

Summary

A temporal bursitis was treated in a cow elephant by radical bursectomy under standing sedation using a mixture of Xylazine and Ketamine, premedicated

a - Brand of Intas Animal Health, Ahmedabad

with Atropine sulfate and local infiltration. There was uneventful healing of surgical wound and recurrence was not recorded till two years of correction.

References

- Estes, J.A. and Buss, I.O. (1976) Microanatomical structure and development of the African elephants' temporal gland. *Mammalia* **40**: 429-36.
- Fernando, S.D.A., Jayasinghe, J.B. and Panabokke, R. G. (1963). A study of the temporal gland in an Asiatic elephant (*Elephas maximus*). *Ceylon Vet. J.* **11**: 108-11.
- Nath, I., Samantaray, S., Cheeran, J.V., Dangolla, A., and Panda, S.K. (2012). Surgical Management of Temporal Bursitis in a Captive Asian Elephant, *Gajah* **37**: 42-44
- Jackson, E.R. (1988). *Chemical Restraint and Anaesthesia of Elephants*, Proc Ann Elephant Workshop, Jacksonville, Florida, p. 112-19.
- Mikota, S.K. (2006). Integumentary System. In: *Biology, Medicine and Surgery of Elephants*. Murray E. F. and Susan K. M. (eds) Blackwell Publishing, USA, p. 254.
- Sarma, K.K. and Pathak, S.C. (2001). Cardiovascular Response to Xylazine and Hellabrun mixture with Yohimbine as reversal in Asian Elephant. *Indian Vet J.* **78**: 400-02.
- Sukumar, R. (2003). *The Living Elephants - Evolutionary Ecology, Behaviour and Conservation*. Oxford University Press, New York.