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Clinical Evaluation, Diagnosis and Surgical Management of Traumatic Pharyngitis in a Non-descript Cattle

Rohit Kumar Sharma[1*], Manu Prabh Sharma[1] and Anil Kumar Bishnoi[1]

[1]Department of Veterinary Surgery and Radiology, CVAS, RAJUVAS, Bikaner, Rajasthan, India.

Authors' contributions

This work was carried out in collaboration among all authors. Author RKS designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors MPS and AKB managed the analyses of the study. Author RKS managed the literature searches. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Present study reports, a successful diagnosis and surgical management of a traumatic pharynigitis in a 3-year-old, nondescript cattle, caused by a submandibular foreign body (sewing-needle). Suture and wound dehiscence were observed as postoperative complication but the animal recovered completely after 15 days of surgery.

Keywords: Traumatic pharyngitis; Submandibular region; Foreign body; sewing needle; Radiography.

1. INTRODUCTION

Ingestion of foreign bodies is common in cattle because of indiscriminate feeding habits and anatomical features of the buccal cavity [1-2]. Both hard and soft objects are ingested accidentally by cattle; hard objects usually go straight into the reticulum, while soft ones find their way to rumen [3]. Traumatic pharyngitis due to foreign bodies like nails and pieces of wires, which got stuck in the pharynx, occurs occasionally in cattle and buffaloes. The affected

**Corresponding author: E-mail: drrohitsharma3372@gmail.com;*

animals keep their head extended and are reluctant to eat. There is acute pain [4]. To diagnose the presence of foreign bodies inside the tissues successfully, two orthogonal radiographs are necessary. Braun et al. [5] revealed that radiography was best suited for the visualization of presence as well as position of metallic foreign bodies in and outside the reticulum and observed radiography was the best reliable indicator. Gomez et al. [6] conducted retrospective study on pharyngeal trauma in 27 dairy cattle and they used radiographic diagnosis in their study and mentioned, emphysema was observed in 81% of radiographs. The present case study found an early diagnosis and a successful surgical retrieval of a submandibular foreign body near the pharyngeal region in a cattle.

2. METHODOLOGY

2.1 Clinical Findings and Diagnosis

A three-year-old cattle was presented to Veterinary clinical Complex, RAJUVAS, Bikaner, with the history of swelling at the submandibular region (Fig. 2) and inability to swallow since last 2 days and showed head extended. The cattle was treated by local veterinarian for inflammation and suspected for Haemorrhagicsepticaemia (HS). At clinical examination, the animal was alert, normothermic, but showed pain on palpation of the submandibular region. Exploratory aspiration of the swelling with 18G sterile needle revealed no fluid or purulent exudate. Lateral radiograph of the affected site revealed the presence of a radiopaque pointed sewing needle with approximately 10 cm. (100.035 mm measured in radiograph) length, placed rostral to the pharynx (Fig. 1&4). Based on radiography, it was decided to operate the animal in lateral recumbency.

2.2 Surgical Treatment

The animal was restrained in right lateral recumbency and submandibular interdental region was aseptically prepared (Fig. 2). Local anaesthesia (2% Lignocaine HCl, 10 mL) was infiltrated at the surgical site. The surgical site was covered with drape to check for further contaminations. 2 inches long longitudinal skin incision was made at the radiographic site of presence of needle and underlaying structures were separated bluntly with scissors and fingers. The tip of the transversely trapped sewing-needle was felt during manual separation of tissue. The needle was squeezed rostrally towards the incision site. After retrieval of the foreign body through the incision (Fig. 3), the incision site was flushed with normal saline solution and skin was directly sutured with non-absorbable suture material (Silk No. 2). For the post-operative drainage of any discharge a small opening was left at sutureline.

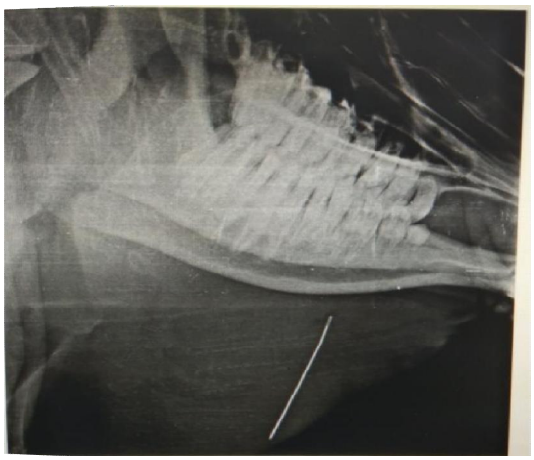

Fig. 1. Lateral radiograph of the submandibular region. The sewing needle appeared as a linear radiopaque structure, placed below the body of the mandible

Fig.2. Photograph showing submandibular swelling

2.3 Post-operative Care

Post-operative care included daily antiseptic dressing of suture line for 15 days and intramuscular administration of Strepto-penicillin (DCR) @ 5gm., o.d. and Meloxicam (Melonex) 0.3mg/kg body weight, O.D. for 7 days and 3 days, respectively. Serratiopeptidasebolus (Serakind) @ 2 bolus per day for 5 days werealso prescribed to subside the swelling.

Fig. 3. Photograph showing surgical retrieval of the sewing-needle

Fig. 4. Photograph showing sewing-needle just after surgery

Animal started feeding 3 days after surgery. Administration of 5% DNS was also prescribed for 2 days post-operatively. Soft diet was advised to owner for one week.

At 9th day after surgery, wound and suture dehiscence occurred as a complication but on follow-up examination complete open wound healing occurred by the 15th post-operative day.

3. RESULTS AND DISCUSSION

Foreign body was successfully removed through surgical interventions and cattle had a good recovery with open wound healing. Ruben [7] reported the risk of postoperative complications as wound dehiscence and fistula formation, and similarly such condition was also reported in this case. Manual removal of a foreign body from pharyngeal region was done by Bishnoi et al. [8] in a cattle, but in the present case, attempts to manual removal of the foreign body was unsuccessful due to intact skin and no abscess formation. Hence it was decided to perform surgery in lateral position under local infiltration. Due to the absence of skin lesions, was assumed that the sewing needle was engulfed through feeding material, and afterwards got lodged in submandibular region. According to Jones et al. [9] the ingestion of foreign body is mainly related to nutritional deficiencies and feeding management, and causes various problem in different organ of the animal, mainly in rumen and reticulum. Extended head, acute pain on palpation, reluctance to eat, thirsty behavior and drooling of saliva were described as clinical signs of traumatic pharyngitis by Singh et al. [10], and were similarly observed in this case. History and clinical signs are often not sufficient in such cases for confirmatory diagnosis and treatment approach [10] and thus, in the present case lateral radiograph was taken for accurate diagnosis and correlated with clinical signs.

4. CONCLUSIONS

Lateral radiographs are necessarily required in such cases to provide an accurate diagnosis and choose the right treatment. Untreated cases of traumatic pharyngitis can become a life threatening situation. In such early treated cases prognosis remains good.

CONSENT

It is not applicable.

ETHICAL APPROVAL

Animal Ethic committee approval has been taken to carry out this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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