

Surgical Management of Frontal Sinusitis in a Buffalo

P. Ravi Kumar, V. Devi Prasad, Makkena Sreenu, D. Bhagya Raju*

Department of Veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, India

Abstract

An eight-year-old Graded Murrah, she buffalo with symptoms of unilateral nasal discharges was diagnosed with frontal sinusitis and surgical treatment was carried. Horn was amputated near to its base and the frontal sinus was irrigated regularly with mild antiseptic solutions, which resulted in uneventful recovery. The etiology, surgical management and outcome of the case were discussed.

Keywords: *Unilateral nasal discharges, frontal sinusitis, horn fracture, horn amputation*

***Author for Correspondence** E-mail: ravikumarpallitvm1018@gmail.com

INTRODUCTION

Frontal sinusitis is inflammation of frontal sinus and the condition results in bovines as a sequel to fracture of horns or frontal bones, dental affections and malignant tumors [1]. Hemorrhage into the sinus provides a good media for multiplication of bacteria leading to inflammation and suppuration. The primary symptom, which is exhibited by the animal in this condition, is nasal discharge. In bovine, mostly the frontal sinus and rarely the maxillary sinus are affected [2].

This can be better diagnosed by clinical signs, physical examination and radiography [3]. A glance on the literature indicated that there were a very few reports on frontal sinusitis in large animals. The diagnosis and management of frontal sinusitis in a buffalo is presented in the present report.

HISTORY AND DIAGNOSIS

An eight-year-old Graded Murrah She buffalo was presented to the Department of Veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, India with symptoms of unilateral nasal discharge with foul smell, lowering of the head etc. It was said to have been treated by a local practitioner for the fractured horn of the ipsilateral side, for the previous two months. Physical examination revealed fracture of horn at its base. On percussion over the frontal sinus, dull sounds were perceived.

Skin lesions over the base of horn showed abrasions due to scratching of head against the hard objects. Haemogram revealed neutrophilia with shift to left and serum biochemical analysis disclosed mild elevation of blood urea nitrogen. Based on the history, findings of physical examination and laboratory data the condition was diagnosed as frontal sinusitis and surgical option was adopted.

TREATMENT AND DISCUSSION

Under regional anesthesia (cornual nerve block) using 2% Lignocaine hydrochloride, the affected horn of the animal was amputated near to its base to allow irrigation and drainage of the frontal sinus of the affected side. Maggots noticed in the frontal sinus (Figure 1), were later removed manually along with the necrosed tissue with the help of forceps.

The frontal sinus of the affected side was irrigated with mild povidone iodine solution and the same was drained out by raising and tilting the head. The opening was left unsutured for 10 days to enable daily irrigation of the frontal sinus. Ciprofloxacin at the dose rate of 5 mg/kg body weight and metronidazole at the dose rate of 10 mg/kg body weight were given intravenously for seven days. Injection Meloxicam was given at the dose rate of 0.2 mg/kg body weight subcutaneously for three days.

Pus discharges were noticed from the sinus opening for the first five days (Figure 2) and disappeared by 10th day (Figure 3). Dorsal and ventral skin flaps were made at the base of the horn and the same were opposed with horizontal mattress sutures to close the opening of sinus (Figure 4) on 10th day. Skin sutures were removed on 12th day after suturing and no recurrence of the condition was observed during an observation period of six months.

Frontal sinusitis reported in the present case might have resulted by entry of microbes into the frontal sinus through the fractured horn. Krishnamurthy [2] and Gaughan *et al.*, [3] reported that frontal sinusitis in bovines occurred as a sequel to horn amputation, but in the present case, the untreated fractured horn was thought to be the main etiology.



Fig. 1: Photograph Showing the Presence of Maggots in Frontal Sinus of a Buffalo.



Fig. 2: Photograph Showing Pus Discharges from the Frontal Sinus on Third Day of its Treatment.

History and findings of physical examination of the animal made the authors to suspect for

the frontal sinusitis, which was confirmed at the time of opening of the sinus. Various diverticula of frontal sinus were irrigated with mild antiseptic solution followed by drainage for a period of 10 days in the present case.

Ward and Rebhum [4] opined that drainage of frontals sinus was essential in sinusitis to avoid the extension of infection into the central nervous system. In the present case, irrigation and drainage of frontal sinus were carried out through the opening of frontal sinus at the base of the horn instead of trephining the sinus and the results were quite encouraging.



Fig. 3: Photograph Showing Interior of Sinus without any Discharge in a Buffalo.



Fig. 4: Photograph Showing the Closure of Frontal Sinus with Skin Flaps in a Buffalo.

REFERENCES

1. Oconnor JJ. Affections of the sinuses. In: *Dollars Veterinary Surgery*. India: CBS Publishers and Distributors Pvt. Ltd.; 1980. 551–4p.

2. Krishnamurthy D. The Respiratory and Cardiovascular System. In: *Ruminant Surgery by RPS Tyagi and Jit Singh*. India: CBS Publishers and Distributors Pvt. Ltd.; 1993. 242–3p.
3. Gaughan AM, Provo-Klimek J, Ducharme NG. Surgery of the bovine respiratory and cardiovascular systems. In: Fubini S, Ducharme N (Eds.). *Farm Animal Surgery*. Netherlands: Elsevier Publications; 2004. 146–7p.
4. Ward JL, Rebhun WC. Chronic frontal sinusitis in dairy cattle—12 cases. *J Amer Vety Med Assoc*. 1992; 201(2): 326p.

Cite this Article

Kumar PR, Prasad VD, Sreenu M *et al*. Surgical Management of Frontal Sinusitis in a Buffalo. *Research & Reviews: Journal of Veterinary Science and Technology*. 2017; 6(1): 3–5p.