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Therapeutic management of lumpy jaw in a jersey cow: A case report

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Abstract

A three year old female Jersey cow was presented to the Veterinary Dispensary, Ayyanaroothu, Thoothukudi district with the history of inappetance, fever and unilateral hard swelling on the left mandibular region. Clinical examination revealed presence of a hard, painless, immobile swelling with yellowish pus discharge. Microscopic examination of the pus material revealed the presence sulfur granules as club like rosettes. The animal was treated with standard dosage of Penicillin and Streptomycin for five days with local dressing of wound with povidone iodine and Potassium iodide 10 grams orally daily for 2 weeks. The mass showed regression in size and the animal completely recovered in four weeks.

Keywords: Actinomycosis, jersey cow, mandible, swelling, sulfur granules, treatment

Introduction

Actinomycosis is a chronic infectious, inflammatory disease caused by an anaerobic Gram-positive bacteria *Actinomyces bovis* in cattle characterized by lumpy, rarefying osteitis and periostitis often with suppurative granulation and draining pus that discharge “sulfur granules”^[1, 2]. The condition is also called as “lumpy jaw” in cattle and was first time described by LeBlanc in 1826. The classical lesions of lumpy jaw were described for the first time by Bollinger, 1877^[3]. The disease affects all breeds, age, and sex of cattle. *Actinomyces* spp. is normal flora of the oral and respiratory mucous membranes. The incidence in cattle is higher where they are fed with straw and ensilage and also by sharp objects and erupting teeth. These feeds and objects injure the buccal mucosa and there by predisposes them to infection. Following the infection, a proliferation of connective tissue, invasion with leucocytes and the resulting formation of a walled tumor-like mass can be seen. The granuloma then invades the bones of the mandible or occasionally the maxilla^[4].

Case history and Observation

A three year old female Jersey cow was presented to the Veterinary Dispensary, Ayyanaroothu with the history of inappetance, fever and unilateral hard swelling on the left mandibular region for past one month. On clinical examination, the mass appeared as a hard, painless, immobile swelling with yellowish pus discharge. All the vital parameters of the animal were found to be within the normal range. Clinical examination revealed the involvement of bony tissues with yellowish pus discharge. The case was tentatively diagnosed as actinomycosis. Then the site was cleaned and using a sterile needle the thick viscous fluid was aspirated from the lesion. A thick smear was prepared from the aspirated fluid and examined microscopically. Microscopic examination of the pus material revealed the presence sulfur granules (Fig. 2) as club like rosettes^[5]. Actinomycosis is characterized by the presence of ‘sulfur granules’, which contain bacteria that are arranged in clubs or phagocytised^[6]. The disease was confirmed as Actinomycosis both clinically and also by microscopic examinations of the exudates. The antibiogram showed sensitivity to penicillin, streptomycin, enrofloxacin, and oxytetracycline.

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Fig 1: Lumpy Jaw-Jersey cow-Hard Swelling in the left mandible-Ventral opening with pus discharge.

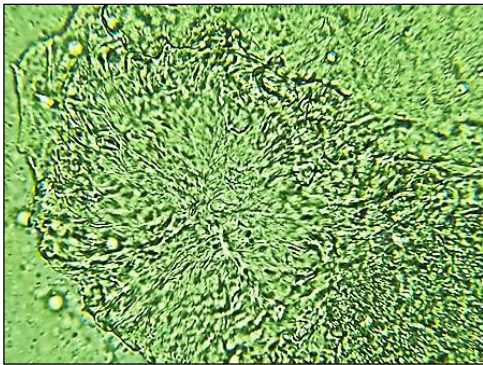


Fig 2: Microscopic Examination: Crushed granules in pus-Presence of sulfur granules-Club-like rosettes.

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Treatment and Discussion

The animal was treated with Inj Streptopenicillin @12.5 mg/Kg Bwt along with meloxicam and chlorpheniramine maleate ^[7] intramuscularly for five days with local dressing of wound with povidone iodine and daily oral administration of potassium iodide 10 grams for 2 weeks. The mass showed regression in size and was completely recovered in four weeks. *Actinomyces bovis* found sensitive to Penicillin, Streptomycin, Tetracycline, Bacitracin ^[8] and it is in agreement with the present report.

Conclusion

Based on this report, it was concluded that actinomycosis in cattle can be treated by parental administration of Penicillin and Streptomycin along with oral administration of potassium iodide and povidone iodine solution for dressing of wound as a successful method of treatment under field condition.

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