Case study on disease of foot and mouth in bull in Wolenchiti district, veterinary clinic of East Shoa zone central Ethiopia.

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Abstract

Foot and Mouth Disease (FMD) is extremely contagious, acute viral disease of cloven-hoofed animals. A 4-years old Bull was admitted at Wolenchiti District, Veterinary Clinic of East shoa zone central Ethiopia. The bull was presented with the history of reduced feed intake, drooling of saliva and loss of body condition. UP on physical examination; body temperature, respiratory and heart rates were 40.5°C, 38 breath/min and 68 beats/min, respectively. In addition, ulcers in the oral cavity, lip-smacking and wound in the internal digital space were observed. Based on the history, clinical sign of the patient and clinical examination the disease Foot and Mouth disease was tentatively suspected. A Mobile App (EDDiE) aids was suspect 90.1% Cowdriosis, 5.63% FMD, 2.83% LSD and 0.61% black leg. Iodine Tincture and Oxytetracyclin 20% wound spray were applied topically while penstrip at a dose of 1 ml/25 kg administered parentrally and the bull was recovered successfully.

Keywords: *Foot and mouth, Economic importance, Treatment and control.*

Introduction

Foot and Mouth Disease (FMD) affects cloven-hoofed animals (including cattle, sheep, goats and pigs), and is caused by an RNA Virus (FMDV) in the family Picornaviridae. Characteristically, vesiclesdevelop, especially in epithelia around the mouth, feet and mammary glands. Case-fatality is usually low except in young stock, but productivity losses and costs associated with control can be substantial. The disease is highly contagious, and the potential for infection of different domesticated and wildlife hosts, not all of which show obvious signs of disease, is a further challenge to control FMDV exists as seven discrete serotypes, and the disease mainly occurs in Africa and Asia, with global distribution mirroring poverty and livestock density New virus strains evolve and emerge regularly and give rise to successive waves of infection, which sometimes spill over into FMD-free regions. Vaccination with killed vaccines is used on a large scale but the immunity induced is short lived and is serotype and sometimes strain specific [1].

Because of the highly contagious nature of the virus and severity of economic impacts associated with the disease, FMD is the most important disease limiting the trade of animals and animal products throughout the world. The most direct economic impact of FMD in endemic countries is the loss or reduced efficiency of production, which lowers farmers' income. The impact of reduced productivity of animals can be prolonged, and diseases can have lasting effects on livestock output in a number of 'hidden' ways such as delays in reproduction leading to fewer offspring, resulting in a reduced livestock population. At the local level, FMD reduces farmers' income and food availability for consumption. At the national level, FMD slows economic growth by severely limiting trade opportunities. Heavy losses occur in small-scale mixed farming systems when outbreaks affect draught oxen during cropping season; FMD causes considerable losses of milk yield and weight among dairy and fattening stock, respectively [2]. Milk is important in the diet of sub-Saharan pastoralists. At household level, milk is particularly an important food for pastoralists' children.

Symptomatically, the disease is characterized by fever, loss of appetite and weight, blisters on the mucus membranes, especially those of mouth, feet and udder. Clinical diagnosis based on lesion identification, in the early stage of infection, FMD virus or viral antigens can be detected using several techniques. However, different serological methods are used to detect antibody against FMD virus and is the main indication that infection has taken place. Airborne transmission over long distances has been reported from pigs that exhale large quantities of the virus and can thus pass it to susceptible ruminants. This mode of FMD spread is only true for temperate region and is of no significance to the drier regions of East Africa [3].

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Figure 1. *Bull suspected with foot and mouth diseasedand lesion on tongue.*

Case Presentation

A 4 years old Bull was admitted to Wolenchiti Veterinary clinic, on 12/12/2018 with history: 3 days ago the bull changes its behaviour, loss of feed intake, loss of body condition, head pressing and dullness, its mouth part become to wounded, drooling of saliva, Lip-smacking, its internal hoof show wound, and it became to lame and unable to move properly [4-6]. Clinical examination Temperature 40.5°C, RR-68 bts/m, HR-38 beats/minut, Drooling of saliva, lacrimation, unable to feed, ataxia and reluctant to move, loss of body weight, loss water intake due to oral ulceration as it seen on Figure 1. Based on the history, clinical sign of the patient and clinical examination the disease was suspected to Foot and Mouth disease. Mobile App (EDDiE), 90.1% Cowdriosis, 5.63% FMD, 2.83% LSD and 0.61% black leg were suspected.

There is no specific antimicrobial treatment, it was treated with, Iodine Tincture, and Oxy tetracyclin 20% wound spray topically, and for secondary complication prevention, it also treated with penstrpe 1 ml/25 kg IM for 8 days. With good management and wound handling techniques. The follow up have been done by Dr. Dejene and according to his report on the 10th days later of its treatment the bull was recovered successfully [7, 8].

Discussion

Foot-and mouth disease was the series diseases of cloven hoofed animals with great economic consequence [9]. Due to it is one of the most diseases that can cause restriction and band on the trade of animals both locally and internationally, thereby threatening the livelihood of Borana and any other areas pastoralists in particular and national agricultural economy in general. It predominantly occurs during dry seasons, hence exposing particularly the children and older people of pastoralists to malnutrition. Adults can better withstand shortages of animal products by using crop-derived food as a substitute. This case was reported from Borana, Fentale, and Walenchit pastoral and mixed agro-pastoral areas. It shows loss of feed intake, loss of body condition, head pressing and dullness, oral ulcers, drooling of saliva, Lip-smacking, intedigitalwounded, and with clinical examination of body Temperature 40.5°C, Respiration rate 68 bts/m, Heart Rate 38 beats/minute [10-14].

So based on this idea of history, clinical sign and mobile app the disease suspected was Foot and Mouth Disease. Supportive treatment was given topically with iodin tincture and cylospary 20% Oxyttc and parentrally with pensterp 1 ml/25 kg dosage [14-16]. The bull was clearly rehealled within 10 days of occurances, with having of good follow up and wound management in addition to treat with antibiotic systemically for secondary complications and Strategic vaccine was the best alternative control method to foot and mouth disease virus.

Conclusion

Foot and Mouth Disease is a viral and highly contagiousy disease of cloven hoofed animals, with lower mortality and higher morbidity rate that, none specified treatment and very challenge for control. The current outbreak was reports from Wolonchiti district East shoa zone. Based on the history and pathognomonic sign of the disease it treated with supportive therapy and series wound management and follow up was principally done with the patient and supplied simple and palatable feeds and was fully recovered and this highly economized disease was controlled with strategic Vaccine and handling to the rest with hygienic if possible.

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