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European Journal of Experimental Biology, 2014, 4(1):142-144



Case report of pseudocowpox in a 3 years old cow and the resulting lesions in a 35 years old woman

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ABSTRACT

The causative agent of pseudocowpox is a member of the genus Parapoxvirus. Freshly calved and recently introduced cattle are most susceptible groups to disease. On February 4, 2012 a cow with a history of teat lesions was examined in Jabal village of Urmia-Iran. Examination revealed that lesions were limited only to the teats and circular in shape. After examination and suspecting to pseudocowpox, the milker's (a woman, aged 35) hands were examined to evaluate the probable zoonotic disease and two papules were observed on the fingers. Limitation of the ulcers to the teats, circular shape lesions that change to horseshoe-shaped rings during time and presence of similar lesions in milker's finger was enough to diagnostic confirmation of pseudocowpox. Recommended measures, such as treatment and isolation of affected cows, or milking them last, the use of disposable paper towels for udder washing, and disinfection of teat cups, appear to have little effect on the spread of the disease. An effort should be made to reduce teat trauma because infection is facilitated by discontinuity of the skin.

Keywords: Pseudocowpox; Zoonotic disease; Iran

INTRODUCTION

The causative agent of pseudocowpox is a member of the genus Parapoxvirus, with close similarity to the viruses of infectious popular stomatitis and contagious ecthyma [6]. Freshly calved and recently introduced cattle are most susceptible, but all adult cattle in a herd, including dry cows, are likely to be affected. The disease does not appear to occur in animals less than 2 years of age unless they have calved. Pseudocowpox is relatively benign, most losses occurring as a result of difficulty in milking and an increase in the incidence of mastitis [6].

The cause of this report is that the disease is uncommon in our province and it seems that this is the first report of pseudocowpox in northwestern of Iran. On the other hand, this disease is a zoonotic disease that farmers in our province do not have information about it and publication of this paper will provide a lot of information about pseudocowpox for them.

MATERIALS AND METHODS

On February 4, 2012 a cow with a history of teat lesions was examined in Jabal village of Urmia-Iran. Examination revealed that lesions were limited only to the teats and circular in shape. Four teats were wounded and there were no wounds on the body of the mammary gland. After examination and suspecting to pseudocowpox, the milker's (a woman, aged 35) hands were examined to evaluate the probable zoonotic disease and two papules were observed on the fingers. The papules appeared on the fingers of the milker after a week of frequent milking following the introduction of the cow into the barn.

Limitation of the ulcers to the teats, circular shape lesions that change to horseshoe-shaped rings during time and presence of similar lesions in milker's finger was enough to diagnostic confirmation of pseudocowpox. The methods of transmission include physical transport by means of contaminated milker's hand, wash cloths and teat cups. The virus cannot penetrate mucosa, and a pre-existing discontinuity of it is necessary for the virus to gain entry. Therefore any effort should be made to reduce teat trauma because infection is facilitated by discontinuity of the skin. Pseudo cow pox will disappear spontaneously within 18 to 21 days from herd, but may recur after one month [6].

RESULTS AND DISCUSSION

In order to treatment, oxytetracycline spray and topical povidone iodine were applied. The milker was advised to use gloves when milking. Eight days after treatment the lesions changed from circular ulcers to horseshoe-shaped rings. Nineteen days after treatment, there were no lesions on the teats.

Pseudocowpox virus is a member of the genus Parapoxvirus, with close similarity to the viruses of infectious papular stomatitis and contagious ecthyma. Parapoxviruses are epitheliotropic viruses identified throughout the world as causing nonsystemic, vesicular, and eruptive skin disease in domestic and wild mammals, especially ruminants [2]. Parapoxvirus infection occurs through scarified or damaged skin (or occasionally through the oral mucosa), followed by virus replication in keratinocytes [1-4]. Virus replication near the port of entry is accompanied by a well-characterized clinical course that progresses through the stages of macules, papules, vesicles, pustules, and scabs [4]. There is no seasonal variation in incidence. Little immunity develops and the disease is likely to recur in the herd within a short time [3].

The disease is transmissible to humans. Human parapoxvirus infection is generally occupational, affecting milkers or other personnel in contact with affected animals, causing lesions called "milker's nodule" or "pseudocowpox" [1-2].



Figure 1: Circular lesions on the teats surface



Figure 2: Circular lesions with distinct borders

Recommended measures, such as treatment and isolation of affected cows, or milking them last, the use of disposable paper towels for udder washing, and disinfection of teat cups, appear to have little effect on the spread of the disease. An iodophor teat dip is recommended as the most effective control measure [5]. An effort should be made to reduce teat trauma because infection is facilitated by discontinuity of the skin.

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