

AN OUTBREAK OF CONTAGIOUS ECTHYMA IN CAMELS IN THE KINGDOM OF BAHRAIN

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ABSTRACT

The present study reports for the first time a severe outbreak of contagious ecthyma in camels in Bahrain. The clinical signs, lesions, treatment and the causative virus identification were recorded and discussed.

Key words: Bahrain, camels, contagious ecthyma, outbreak

Contagious ecthyma (contagious pustular dermatitis, Orf), is a highly infectious viral skin disease of sheep and goats caused by a parapoxvirus. The disease is characterised by the development of pustular and scabby lesions on the muzzle and lips (Abu Elzein *et al*, 1998; Ali *et al*, 1991; Dashtseren *et al*, 1984). Severe facial oedema had also been reported in lambs (Gumbrell *et al*, 1997).

Although contagious ecthyma has been known in sheep and goats since 1913 (Hoare *et al*, 1913) its description in camels appeared in 1969 (Busknev *et al*, 1969). The disease was then recorded in Kazakhstan (Tulepbaev, 1971), Somalia (Kriz, 1982; Moallin *et al*, 1988), Mongolia (Dashtseren *et al*, 1984), Kenya (Dashtseren *et al*, 1984), Sudan (Ali *et al*, 1991) and Saudi Arabia (Abu Elzein *et al*, 1998; 2004a,b; Housawi *et al*, 2004).

A severe outbreak of contagious ecthyma involved a complete herd of 150 female camels 2-3 years old occurred for the first time in Bahrain in 2005, which is reported here.

Clinical Signs and Diagnosis

The disease was characterised by severe papules and pustules on the lips (Fig 1 and 3), muzzle (Fig 2) and eyelids (Fig 4), a rise in body temperature (38.80-39.30°C), profuse salivation, foul mouth smell and facial oedema (Fig 5).

The lesions started as papules which later developed into pustules. The pustules on the lips ruptured, and became ulcerated, those on the muzzle dried and became covered by grey or brown scabs. The morbidity rate was 100% but no mortality. The

incubation period was 1-4 days. The disease peaked at 6 to 7 days after infection.

Pustules, EDTA blood and saliva were aseptically collected from 3 infected camels in febrile condition. The samples were submitted frozen in sealed containers to the Centre for Ecology and Hydrology in UK for virus identification using the polymerase chain reaction (PCR).

Infected camels were given supportive treatment, their mouths were washed with antiseptic solution. Penstrep[®] (dihydrostreptopenicillin) was administered intramuscularly at a dose of 20 ml for 7 days to combat secondary infection. An antihistamine (Histamil) was administered intramuscularly at a dose of 8 ml for 3 days to relief facial oedema.

Results

Most of the infected camels recovered within 2 weeks, while the more severely affected animals took up to one month. The saliva and pustule produced strong DNA products, whereas, the blood produced a positive signal which was weaker implying that a lower quantity of viral DNA was present in this sample. The PCR-amplified DNA from all samples was extracted from agarose gels, purified and sequences were determined. Comparative sequence analyses of all samples showed that the DNA was most closely related (99.5%) to the sequence of an equivalent region of the envelope gene of pseudo-cowpox virus.

Discussion

The clinical signs, gross lesions, and the response to supportive treatment were indicative

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Fig 1. Contagious ecthyma – mouth lesions



Fig 4. Contagious ecthyma – eye lesions



Fig 2. Contagious ecthyma – dry mouth lesions



Fig 5. Contagious ecthyma – facial oedema



Fig 3. Contagious ecthyma – buccal lesions

of contagious ecthyma. These were confirmed by identification of the causative virus using PCR. These results imply that contagious ecthyma in camels in Bahrain have been caused by pseudo cowpox-related virus rather than Orf virus. The severe disease symptoms caused by this virus in camels may reflect a relatively recent introduction of this virus to

camels, possibly from their attendants, that have been exposed to infected ruminants.

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