

Camel ORF

Definition:

Highly contagious viral disease related to family (poxviridae) genus (parapox) affecting camel, sheep, goat, lama and some wild animals on the skin primarily around mouth .

Synonyms:

Contagious pustular dermatitis (CPD), contagious ecthyma, contagious pustular stomatitis, malignant aphtha, sore mouth, scabby mouth in sheep and goats and contagious ecthyma in camel,(Auzdyk in Saudi Arabia)(Abu El zein et al., 1998)

Cause:

Parapox virus (ORF) are not related to orthopox viruses (pox) from family (poxviridae) and there is no cross immunity as such between the two viral species.

Economic importance:

Lesion hinder the camel to eat so lead to weight loss.

Immunity:

Although ORF virus related to the same family of camel pox (poxviridae) but there is no cross immunity between the two viruses but also there is antigenic diversity between ORF parapox virus and other related parapox viruses like (Bovine popular stomatitis), (milker's nodule virus), and (pseudo cow pox).

The infected animal show acquired immunity and resistance to the disease .

Vaccination:

Vaccination with the material containing ORF virus seemed to be promising. In contrast, camels were not protected after immunization with a vaccine against sheep and goat contagious ecthyma.

First time of outbreak of ORF virus in camel was in Libya and scientists detected of the antigen of the virus from the camel sera by ELISA and show a very close similarity with the western blot of ORF of the sheep sera.

So vaccination of camel ORF by using live attenuated virus from camel sera or using of live vaccine of sheep ORF (the common). (e.g ORFVAX - Kevevabi company).

This vaccine not used for farms free from ORF.

Or for very young calves.

No immunity transfer from dam to calves.

Vaccination should be applied before the risk of ORF virus (cold season).

Vaccination by special technique through make scratching of skin and put the vaccine over it with complete special percussions.

Vaccine give immunity from 6months to one year.

Methods of transmission:

By direct contact or indirect by contaminated environment, un healthy skin play a role in transmission.

Susceptibility:

New and old world camelids(young calves under one years old about 98% of total cases but may be some adult camel show sign of infection), sheep, goats, and other wild animals.

Pathogenesis:

Incubation period around 5 -6 days then begin of pustules transform to papules then to scabs.

Zoonotic properties:

People with direct contact with susceptible animal can be infected.

Morbidity:

From 10 – 80% of 2 -3 months old camel reach up to 100% in one year old camel.

Mortality:

Less than 1% but may reach to 38% in young 1 -3 months camel.

Clinical signs:

Fever reach 39° C , panting, show pain sometimes.

Begin with pustules around lips of mouth transform to papules ending with scab formation may be cover all mouth lead to large and hard scabby lips.

Head may be show swelling rather than normal.

Lesion may be appear around lips of vagina, prepuce or around teat of udder.

Diagnosis:

- 1- Clinical signs.
- 2- Differential diagnosis.
- 3- Electron microscope.
- 4- Serology (ELISA).

Differential diagnosis:

- 1- Pox.
- 2- Papilloma virus.
- 3- Reaction of insect pits.

Treatment:

The virus is mainly self laminated with no specific successful treatment but some emollient medications contain antibiotic will be helpful (e.g: R/Scavon cream).

Also antibiotic spray (e.g: terramycin spray).

Antipyretic NSAIDs for fever and antibiotic injection for secondary bacterial infection.

Supportive treatment like vitamin C injection or powder in water.

Abdul Raziq, Keristen de Verdeir, and Mohammad Younas from Pakistan show a specific treatment consist of pouring warm, boiled water on the animal's head, or hot branding of the head. As pesticide and/or larvicide, application of DDT powder or Trichlorofon in kerosene oil on the lesions is used, or insertion by a smooth stick with ash from the burned root from the plant Orgalama (*Rhazya stricta*) (Al-harmal in Arabic : it's a toxic plant grow in desert specially in Arabic peninsula) Some respondents complain/comment on that the specific treatment is not very effective against orf.

Supportive therapy can consist of giving *hot food*.

Control and prevention:

Prevention by using vaccination as mentioned before.



(photo show Al-harmal plant)

References:

- 1- Camel contagious ecthyma (pustular dermatitis) Dashtesren .T, Solovyev B V, Verejka F, Chokhoo A.
- 2- Immune responses of the camel (Camelus dromedaries) to ORF virus infection. Azwai S M, Carter S D, Woldehiwet Z. department of veterinary pathology, university of Liverpool, UK.
- 3- Infectious disease of wild animal book. Elizabeth S, Williams, Ian K. Barker.
- 4- Medicine and surgery of south American camelids book. Murray E, Flower, DVM. Second edition.
- 5- Diseases of sheep fourth edition. I.D. Aiken.
- 6- Camel book, faculty of veterinary medicine, Al-Ba`eth university, Syria.
- 7- Camel compendium, G W Menefield Bvsc, Dr. A H tinson Bvsc.
- 8- Sever Azudyk infection in one month old camel calf, university of veterinary teaching hospital, King Faisal university, Al-Hasa, Saudi Arabia, march, 2002.