

# Adenovirus type 3 infections in camels in Sudan

Intisar,K.S<sup>1</sup>.; Ali,Y.H<sup>1</sup>.; Khalafalla,A.I<sup>2</sup>.; Mahasin,E.A/Rahman<sup>1</sup>

<sup>1</sup>Central Veterinary Research Laboratory, P.O.Box 8067, Al Amarat, Khartoum, Sudan.

<sup>2</sup>Department of Microbiology, Faculty of Veterinary Medicine, University of Khartoum, Shambat, 13314 Khartoum North, Sudan.

## Introduction

Galbreath *et al*(1994) reported the isolation of adenovirus from lungs of young llamas with pneumonia and hepatitis. Serologically antibodies against adenovirus were detected in 1.3% of dromedaries in Nigeria (Olaleye et al., 1989), in 93% of 270 llamas in USA (Picton, 1993) and in 43 of 120 camels in Egypt ( Hadia et al., 2001).



## Materials and methods

### Samples collection:

A total of 239 pneumonic lung specimens and 260 camel sera were collected at four different localities in Sudan.

### Sandwich ELISA for adenovirus 3 antigen and antibody detection:

Sandwich ELISA kits for adenovirus 3 antigen and antibody detection (Bio-X Diagnostics, Jemelle, Belgium) were used according to the instructions of the manufacturer.

## Results

### Adenovirus type 3 antigen detection:

Using sandwich ELISA, 3 out of 239 pneumonic camel lung specimens were found positive (1.3%), the details are presented in Figure1.

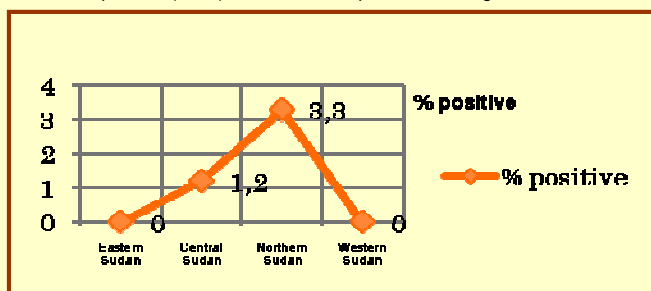


Figure 1: Detection of adenovirus type 3 antigen in camel lungs in different localities in Sudan using ELISA (2000-2006)

### Adenovirus type 3 antibody detection:

Indirect ELISA kits for detection of antibodies to adenovirus 3 were applied on 260 camel sera with 90% positivity (Figure 2).

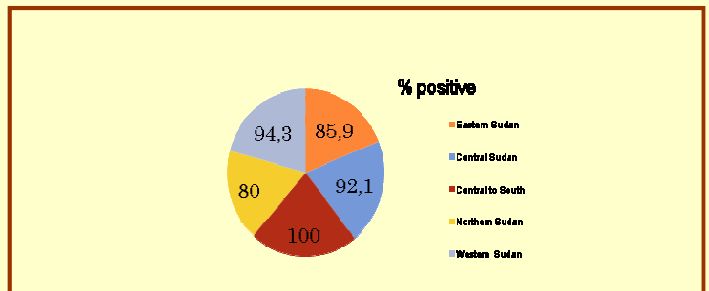


Figure 2: Detection of antibodies to adenovirus 3

## Discussion

- ✓ In this study, adenovirus antigen was detected in 1.3 % of tested camel lungs using ELISA.
- ✓ This is the first report for adenovirus antigen detection in camels in Sudan and probably elsewhere.
- ✓ This finding supported by the previous reports on the association of adenovirus with pneumonia in camelidae (Galbreath *et al*, 1994, Mattson, 1994 ).
- ✓ The detected seroprevalence of adenovirus in this study was 90% which is considered high prevalence and is far higher than that reported in previous publications.

## Conclusion

Adenovirus infection in camels of the Sudan is widely distributed. 21.8% of positives showed high titers indicating recent and/or multiple infections.

## References

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