

## Communication

were reported in the pancreas. However, in the closely-related avian influenza virus, mild to moderate or severe necrotizing pancreatitis with intranuclear inclusions in the islet cells was produced by a highly pathogenic strain in chickens (1). Necrotizing myositis were encountered in infections due to PPMV-1 NDV and avian Influenza virus.

**EL MUBARAK (A.K.), ABU ELZEIN (E.M.E.), ABU ELGASIM (A.I.)**. Note on the pathology of experimental infection of pigeons by the pigeon paramyxovirus type I (PPMV-1). *Revue Elev. Méd. vét. Pays trop.*, 1990, **43** (4) : 441-444

Oral, intramuscular or intravenous experimentally induced infection of pigeons by paramyxovirus serotype I (PPMV-1) resulted in nervous signs, and diarrhoea. Necropsic examination showed mild to moderate congestion of viscera and catarrhal enteritis. Histo-pathological changes were most frequent in the central nervous system, followed by kidneys, liver, pancreas, intestines and lungs, together with mild to severe non-purulent meningoencephalitis. *Key words* : Pigeon - Paramyxovirus - Experimental infection - The Sudan.

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## Caprine arthritis-encephalitis antibodies in indigenous sheep in Saudi Arabia

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**ALLUWAIMI (A.M.), ABU ELZEIN (E.M.E.), HASSANEIN (M.M.)**. Anticorps contre l'arthrite-encéphalite caprine chez des moutons d'Arabie Saoudite. *Revue Elev. Méd. vét. Pays trop.*, 1990, **43** (4) : 444-445

Une étude sérologique a été menée chez des moutons d'Arabie Saoudite afin de rechercher des anticorps contre le virus de l'arthrite-encéphalite caprine ; 0,8 p. 100 seulement des sérums examinés étaient positifs. Des considérations sur l'épizootie de la maladie dans la région sont discutées. *Mots clés* : Mouton - Arthrite - Encéphalite - Sérum - Arabie Saoudite.

### Introduction

Caprine arthritis-encephalitis (CAE), a disease usually affecting young goats, involves the central nervous system and connective tissues, especially those associated with the synovial lined cavities (4). Degenerative arthritis becomes chronic and is mostly seen in adults. Sick goats show acute articular swelling and pain. The main pathological features are synovial cell hyperplasia and infiltration by leucocytes. There is also proliferative synovitis of joints, tendon sheath and bursae, characterized by villous hypertrophy. Later stages lead to fibrosis, necrosis and mineralization of synovial membranes and periarticular collagenous structures leading to ankylosis (1, 4).

The causative virus of CAE belongs to the *retroviridae* family, the *lentivirinae* subfamily. This subfamily includes virus responsible for several slowly developing, often fatal, diseases in man and animals (7). The disease has been reported from various parts of the world (2, 6, 9).

As the Kingdom of Saudi Arabia imports live animals from various parts of the world, it is expected that some foreign diseases of domestic animals could be introduced into the country.

The present study was initiated by the observations that symptoms of swollen joints and ankylosis are often seen in sheep and goats at the Al-Ahsa oasis. Since repeated trials to isolate the CAE virus, or any other microorganism from such animals were unsuccessful, we carried out some experiments to look for serum antibodies against the CAE virus, as a preliminary guide-line for future studies of this disease.

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## Materials and methods

### Reference antigen and antiserum

The CAE virus reagents for the agar gel immunodiffusion (AGID) were kindly supplied by Pulman WA, USA. Vials of the major glycoprotein (MW 135 000) of the CAE virus (2) (gp 135) antigen and the same positive serum were provided in a lyophilized form.

### Test sera

They were collected from apparently healthy indigenous sheep.

### The AGID test

A 1 % Noble agar was prepared in borate buffer, pH 8.6 (2 gm NaOH + 9 gm H<sub>3</sub>BO<sub>3</sub> in 1 litre of distilled water). The test method indicated by the Animal Disease Research Unit, Pullman, USA (Dr. GORHAM, personal comm., 1985), was briefly as follows :

Petri dishes (100 mm diameter) were used. Fifteen millilitres of boiled agar in borate buffer were poured into each Petri dish to make a 2.8 mm thick layer. Plates were allowed to cool ; then a seven-well pattern was made with one central well surrounded by a circle of 6 wells. Bottoms of wells were sealed with boiled 0.6 % agar in borate buffer by filling each well and resucking the boiler agar. The central well was filled with the antigen and alternate wells were filled with the positive serum. Test sera were added to the remaining wells. The plates were covered and left in a humid chamber until read after 48 h.

## Discussion and conclusion

Of the 250 sera examined only 2 were positive (0.8 %).

The AGID has been widely employed by several workers and with great success in the serological surveys for CAE virus antibodies (2, 3, 5, 6). The disease is present in North America (USA and Canada), Europe (Great-Britain, France, Switzerland, Norway), Latin America (Peru, Mexico), Australia, New Zealand and Fiji (3, 5, 6, 9, 10). In Africa, sera from the Sudan, Somalia and South Africa showed that these countries are free from the disease (3). However, low levels of seropositive animals were detected in Kenya (3). Although the results in the present study revealed a very low incidence of seropositivity we still feel that it is significant.

Further country-wide serological surveys for detection of seropositive animals may give an indepth look at the actual extent of the disease among the indigenous livestock. When the exact situation is elucidated, the adequate control measures can be implemented.

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**ALLUWAIMI (A.M.), ABU ELZEIN (E.M.E.), HASSANEIN (M.M.).** Caprine arthritis-encephalitis antibodies in indigenous sheep in Saudi Arabia. *Revue Élev. Méd. vét. Pays trop.*, 1990, **43** (4) : 444-445

A serological survey was conducted in indigenous sheep from Saudi Arabia for detection of antibodies against the caprine arthritis-encephalitis virus. Only 0.8 % of the sera examined were positive. Epizootiological considerations of the disease in the country are discussed. *Key words* : Sheep - Arthritis-encephalitis - Sera - Saudi Arabia.

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