Rev. Elev. Méd. vét. Pays trop., 1985, **38** (1) : 31-33.

Isolation of *Pasteurella multocida* type B from an outbreak of haemorrhagic septicaemia in camels in the Sudan

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RÉSUMÉ

HASSAN (A. K. M.), MUSTAFA (A. A.). — Isolement de *Pasteurella multocida* type B chez des dromadaires au Soudan. *Rev. Elev. Méd. vét. Pays trop.*, 1985, **38** (1) : 31-33.

Un foyer de pasteurellose aiguë est apparu chez des dromadaires de la province du Nil Bleu au Centre du Soudan. *Pasteurella multocida* type B a été isolée et identifiée chez des animaux morts.

Le germe était virulent pour les lapins et les veaux.

Mots clés : Dromadaire - Pasteurellose - *Pasteurella multocida* - Soudan.

SUMMARY

HASSAN (A. K. M.), MUSTAFA (A. A.). — Isolation of *Pasteurella multocida* type B from an outbreak of haemorrhagic septicaemia in camels in the Studan. *Rev. Elev. Méd. vét. Pays trop.*, 1985, **38** (1) : 31-33.

An acute outbreak of pasteurellosis in camels occurred in the Blue Nile Province in the Central Region of the Sudan. *Pasteurella multocida* type B was isolated and identified from dead camels. The organism was virulent for rabbits and calves.

Key words : Camel - Haemorrhagic septicaemia - *Pasteurella multocida* - Sudan.

INTRODUCTION

According to the 1961 FAO/OIE Animal Health Year-book, haemorrhagic septicaemia occurs in camels in The Soviet Union, Algeria, Sudan, and the then French Solamiland ; seasonally in Mauritania and is suspected to exist in Chad and Spanish Sahara. It was assumed that camels were not susceptible to the organisms that infected cattle (4). LEESE (5) and COOPER (2) reported the isolation of pasteurella organisms from the blood, exudates and lymphatics of affected camels ; both organisms were avirulent for rabbits.

However, *Pasteurella multocida (P. multocida)* was never isolated and identified from camels in the Sudan before. This paper reports the isolation and identification of the organism from a severe outbreak in camels in the Blue Nile Province.

MATERIALS AND METHODS

Sick animals were clinically observed and their temperatures recorded. Blood and exudate, long bones and internal organs, such as livers and spleens, were collected from dead carcasses.

Blood and exudate smears were stained by Giemsa-Leishman and Gram stains. Primary

cultures from the internal organs and bone marrow of long bones were prepared on blood agar. Pure isolates were maintained in serum broth and nutrient agar. All cultures were incubated at 37 °C.

Nutrient agar colonies were biochemically tested (3). Kligler iron agar was used for the detection of hydrogen sulphide, urea broth for urease activity, O-F medium for oxidation fermentation activity and hydrogen peroxide for catalase activity. The sugar fermentation activity was tested in peptone water to which one per cent carbohydrate was added. The indicator used was bromothymol blue. Capular serotyping was determined by the indirect haemagglutination test as described by CARTER (1).

Three rabbits and two calves were inoculated subcutaneously, each rabbit receiving 0.5 ml and each calf receiving 2 ml of an overnight serum broth culture.

Camels in the area were vaccinated with a bacterin vaccine which is used in the Sudan for protecting cattle and sheep. 1 080 camels were vaccinated.

RESULTS

The clinical signs observed included elevation of temperature (102,4° F to 104° F), swelling of the chest, neck and hind quarters. Although the camel owners claimed that more than 50 camels died, yet only 19 camels were confirmed to have been sick, of which 15 died. It was observed that vaccination efficiently controlled the outbreak.

On examination of the oedema and blood smears bipolar staining gram negative coccobacillary organisms were seen. *P. multocida* was identified from the exudate and bone marrow of two camels. The organism could not be isolated from the other samples due to putrefaction.

Colonies on blood agar were fine, raised, entire translucent, fluorescent and gave the characteristic seminal odour. Broth cultures showed uniform turbidity and the characteristic odour. The biochemical tests were typical for *P. multocida*. The isolate was identified as serotype B by the indirect haemagglutination test.

The three rabbits inoculated with the broth culture died within 24 hours and *P. multocida* was procured in pure cultures from the blood of their hearts. Smears from the heart blood, stained by Giemsa and Leishman stains showed the typical bipolar staining features.

The two calves showed severe symptoms of haemorrhagic septicaemia and died. *P. multocida* was isolated in pure culture from their blood.

DISCUSSION

According to the cultural, biochemical and biological characteristics, the isolated organism was *P. multocida*.

Although haemorrhagic septicaemia in camels was reported from different parts of the Sudan, (Annual Reports, Ministry of Animal Health, 1957, 1960, 1961 ; Gatt-Rutter and Mack, 1963), yet the disease was not reported from the Blue Nile Province. Moreover, the organism was not isolated and identified before.

This outbreak was an acute one and eleven animal owners reported it in their herds. Some of the infected animals showed typical signs of haemorrhagic septicaemia including hyperthermia, oedematous swelling of the neck, chest and the hind quarters and scrota. The subcutaneous oedema was gelatinous and oedema fluid yellowish in colour. The organism differed from that of LEESE (5) by being virulent for rabbits, killing them within 24 hours.

Five miles away from the area under consideration there was an outbreak in cattle. Unfortunately, samples could not be collected from the outbreak for comparative studies, but the organism isolated from camels was shown to be virulent for cattle. Morever, *P. multocida,* serotype-B was isolated and identified from outbreaks in cattle in the Sudan.

ACKNOWLEDGEMENTS

We wish to extend our thanks to Professor Sir Alexander ROBERTSON of the Centre for Tropical Veterinary Medicine, Edinburgh, for his advice.

Approval of the Under-secretary and Director of Veterinary Research Administration to publish this work is acknowledged.

Retour au menu

RESUMEN

HASSAN (A. K. M.), MUSTAFA (A. A.). Aislamiento de *Pasteurella multocida* tipo B en dromedarios en Sudán. *Rev. Elev. Méd. vét. Pays trop.*, 1985, **38** (1) : 31-33.

Un foco de pasteurelosis aguda occurrió en dromedarios de la provincia del Nil Azul en el centro del Sudán.

Se aisló y se identificó en animales muertos *Pasteurella multocida* tipo B ; ésta era virulenta par los conejos y los terneros.

Palabras claves : Dromedario - Pasteurelosis - *Pasteurella multocida* - *Sudán*.

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