

Isolation of *Fusobacterium necrophorum* from a camel

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Key words

Camel - *Fusobacterium necrophorum* -
Necrosis - Skin - Sudan.

Summary

Fusobacterium necrophorum was isolated in a pure culture from lesions simulating contagious skin necrosis disease from a camel. The area of study is 300 kilometers south of Khartoum where camels are part of a semi-nomadic system.

■ INTRODUCTION

Contagious skin necrosis is a disease that affects camels in Sudan and other camel-owning countries. In India it is referred to as "Johling" (3), in Somalia as "Dalehau" (9), and in Sudan as "Naieta". The disease is characterized by necrosis of the skin, abscesses, sinus formation and enlargement of local lymph nodes (10). Little work has been done on the aetiological aspect of the disease (4, 5, 6). In the Sudan, *Fusobacterium necrophorum* has been suspected to be one of the aetiological agents of "Naieta", in agreement with the work of Hussein and Shigidi in cattle (7).

■ MATERIALS AND METHODS

A 4-5 year old she-camel was referred to Sinar Veterinary Laboratory. The animal was off-food, showing extensive scaly lesions in the neck with involvement of the inferior cervical lymph nodes in the area. Swabs were taken aseptically from the periphery of the lesions and were immediately cultured on a number of sheep blood agar plates. The plates were incubated aerobically at 37°C for several days. Blood in EDTA was taken for haematological investigations.

■ RESULTS

The plates incubated aerobically showed no growth. Those incubated anaerobically yielded a pure culture of haemolytic small colonies which did not show pigmentation. The organism was identified as *Fusobacterium necrophorum* according to the methods described by Cowan and Steel (2). The animal was found to be slightly anaemic with a packed cell volume of 22%, total white blood cell count of 22,900/cu mm and red blood cell count of 5,340,000/cu mm.

■ DISCUSSION

The most important defense mechanism against invasion of tissues by anaerobes is the redox potential of well oxygenated tissues (about 150 microvolts) (8). Consequently, death of tissues after trauma, surgery, arterial insufficiency and infection by aerotolerant bacteria are important predisposing factors to *F. necrophorum* infections. The lesions described at the neck could have been due to trauma made by stick strokes to drive the camel (6). Because fusobacteria are part of the normal mammalian flora, they are often isolated from mixed infections (8). It is difficult to assess the role of normal flora in mixed infections. In this report, *F. necrophorum* was isolated in a pure culture. This suggests that it could be the causative agent. In Sudan, isolation of *F. necrophorum* was once reported by Hussein and Shigidi (7) from livers of cattle collected from abattoirs. This could be due to the fact that in routine diagnosis cultures are not incubated anaerobically. Moreover, many strains of *F. necrophorum* produce L-forms in primary cultures (1). The increase in total white blood cells is an indication of bacterial infection.

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Résumé

Suliman T.A., Bakhiet M.R. Isolement de *Fusobacterium necrophorum* sur un chameau

Fusobacterium necrophorum a été isolé en culture pure chez un chameau à partir de lésions ressemblant à celles d'une maladie nécrotique contagieuse de la peau. Ce projet a été réalisé dans une région où les chameaux sont dans un système d'élevage semi-nomade, à 300 km au sud de Khartoum.

Mots-clés : Chameau - *Fusobacterium necrophorum* - Nécrose - Peau - Soudan.

Resumen

Suliman T.A., Bakhiet M.R. Aislamiento de *Fusobacterium necrophorum* en un camello

Se aisló un cultivo puro de *Fusobacterium necrophorum*, a partir de lesiones similares a la enfermedad necrótica cutánea contagiosa, en un camello. El área de estudio se sitúa 300 kilómetros al sur de Kartum, en donde los camellos son parte de un sistema semi nómada.

Palabras clave: Camello - *Fusobacterium necrophorum* - Necrosis - Piel - Sudan.