

Communication

First observation of camel (*Camelus dromedarius*) lymphadenitis in Libya. A case report

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Les signes cliniques de la lymphadénite ont été recherchés sur le dromadaire en Libye. Quatre animaux, âgés de 6 à 8 ans, ont présenté de l'innapétence, avec amaigrissement et anémie légère. La maladie était caractérisée par un gonflement et un abcès des ganglions lymphatiques cervicaux inférieurs, à la base du cou. *Corynebacterium pyogenes* s'est révélé être l'agent causal de cette affection.

Mots clés : Dromadaire - *Camelus dromedarius* - Lymphadénite - *Corynebacterium pyogenes* - Libye.

Introduction

In lymphadenitis, lymph glands are involved, most frequently the inferior cervical nodes at the base of the neck. This case report describes the clinical features of the disease in a natural outbreak in old camels for the first time in Libya with the subsequent isolation of *Corynebacterium pyogenes*.

Materials and methods

The disease was observed in a nomadic herd of 150 camels (*Camelus dromedarius*) in Tripoli, Libya, during January 1991. Four male camels 7 to 8 years old were suffering from enlargement of the inferior cervical lymph nodes at the base of the neck. The laboratory specimens were obtained by surgical removal of enlarged inferior cervical lymph nodes. Samples were taken to the laboratory and cultured on a 5 % sheep blood agar medium. Isolated microorganisms were identified and characterized by biochemical and sugar fermentations according to CARTER (1) and CRUICKSHANK *et al* (2).

Results

The clinical signs of the affected camels showed enlargement of the inferior cervical lymph nodes at the base of the neck. The size of the lesion varies but might reach that of an orange (photo 1). The swelling was hard, cold, nodular in consistency, painful in nature and with enlarged lymph vessels connected to the gland. The camels

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TABLE I Biochemical and sugar fermentations of isolated *C. pyogenes* strains.

Criteria	Characters
Hemolysis	β
Catalase	—
Gelatinase	+
Nitrate reduction	—
Urease	—
Acid production:	
Glucose	+
Maltose	+
Lactose	+
Sucrose	—



Photo 1 : A camel with lymphadenitis. Enlargement of the inferior cervical lymph nodes at the base of the neck.

were deprived of appetite, emaciated, slightly anemic and reluctant to work.

Corynebacterium pyogenes was isolated and identified. Biochemical and sugar fermentations of the isolated microorganisms were performed as shown in table I.

Discussion

In Libya, lymphadenitis as caused by *C. pyogenes* is believed to have existed for years, but has never been reported. Locally, the disease called "waram" is thought to be similar to caseous lymphadenitis in sheep. In Egypt, it is called "kandiel". In Saudi Arabia and in the Sudan, it is

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referred to locally as "anaba" (5). In Ethiopia, it is called "mala" and DOMENECH *et al.* (3) described a condition in Ethiopian camels which resembled caseous lymphadenitis in small ruminants. This is a chronic condition developing slowly and characterized by external and internal abscess formation, usually affecting adult camels over 5 years of age. Lymph glands were involved, most frequently the inferior cervical (4). A similar condition has been described in Kenya by SCHWARTZ *et al.* (7). The size of the inflamed gland varies but might reach the size of an orange or larger. Abscesses contain a non-granular yellowish pus. While, DOMENECH *et al.* (3) recovered *C. pyogenes* from 6.7 % of cases. Also, RICHARD (6) in his study of the pathology of the camel puts considerable emphasis on the importance of corynebacteriosis in *camelidae* and considers *Corynebacterium* spp. to be the main cause of "mala". Surgical interventions were performed on the affected camels because the lesions were usually confined to one organ inferior cervical lymph node, but they can also disseminated. *C. pyogenes* are susceptible to a number of antibiotics *in vitro*, but because of the suppurative processes, including abscesses, treatment is not usually satisfactory.

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- The clinical signs of lymphadenitis in camels in Libya were investigated. Four animals 6 to 8 years old were inappetent, emaciated and slightly anemic. The disease was characterized by swelling and abscess formation in the inferior cervical lymph nodes at the base of the neck. *Corynebacterium pyogenes* was the causative microorganism of this diseased condition.
- Key words* : Dromedary - *Camelus dromedarius* - Lymphadenitis - *Corynebacterium pyogenes* - Libya.