

Communication

Suspicion of a case of lymphocytic leukaemia in a camel (*Camelus dromedarius*) in Sultanate of Oman

M.H. Tageldin¹H.S. Al Sumry¹A.M. Zakia²A.O. Fayza²

TAGELDIN (M.H.), AL SUMRY (H.S.), ZAKIA (A.M.), FAYZA (A.O.). Suspicion d'un cas de leucémie lymphocytaire chez un dromadaire (*Camelus dromedarius*) dans le Sultanat d'Oman. *Revue Élev. Méd. vét. Pays trop.*, 1994, 47 (2): 157-158

Les auteurs décrivent la morphologie cellulaire sanguine dans une suspicion d'un cas de leucémie lymphocytaire chez un dromadaire. Ils discutent leurs résultats et concluent à la rareté de cette pathologie en la comparant aux résultats obtenus par l'examen de nombreux prélèvements de sang sur le chameau depuis 10 ans.

Mots clés : Dromadaire - *Camelus dromedarius* - Leucémie - Lymphocyte - Néoplasme - Sang - Prélèvement sanguin - Oman.

Lymphoid tumours are a relatively common neoplasm in most domestic animals (5). Those classified as lymphosarcoma are more frequent than lymphocytic leukaemia (1). Although the available literature reveals fibroma (6, 8, 9), fibromyxoma (2), myxofibroma (11), fibrous epulis (7), papilloma (10), squamous cell carcinoma (12), interstitial cell tumour (3), renal cell carcinoma (13) and lymphosarcoma (14), tumours appear to be scanty in the dromedary camel. Due to the paucity references of lymphoid tumour in the dromedary, it is felt relevant to place on record the first case of suspected lymphocytic leukaemia in this species in the Sultanate of Oman.

A 10-years-old, female dromedary camel was presented to a veterinary clinic with a history of anorexia, depression and weight loss. Clinically, the animal was very dull, thin and anaemic; the temperature was within the normal range. Blood in EDTA was submitted to the laboratory. The results of the peripheral blood picture are summarized in table I. The lymphocytes and lymphoblasts showed marked variation in cell size (photo 1). A large population of immature lymphocytes was present, with slightly pleomorphic nuclei and strongly basophilic cytoplasm. Nucleoli were observed in many of the cells. Other lymphocytic abnormalities included remarkable cytoplasmic and nuclear atypia, such as cytoplasmic blebs and small or large indented or double nuclei, considerably increased cytoplasmic: nuclear ratio and weak stainability of cytoplasm (photo 2). Mitoses were frequently seen. The blood was negative for blood parasites.

1. Ministry of Agriculture and Fisheries, Veterinary Laboratory Rumais, POB 467, Muscat, Sultanat d'Oman.

2. Central Veterinary Research Administration, POB 8067, Khartoum, Soudan.

Reçu le 6.11.1992, accepté le 31.8.1994.

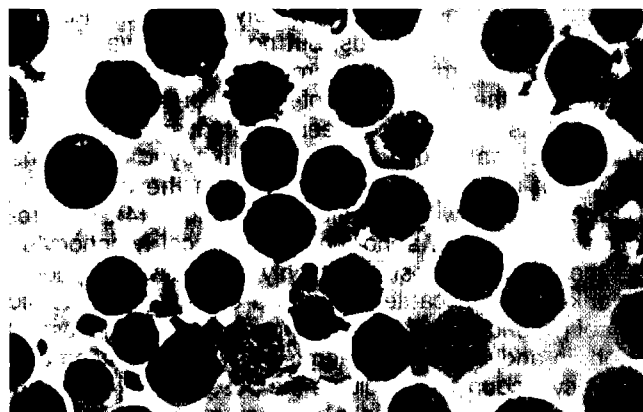


Photo 1 : Peripheral blood film. Note marked variation in cell size of lymphocytes and lymphoblasts, Giemsa's stain.

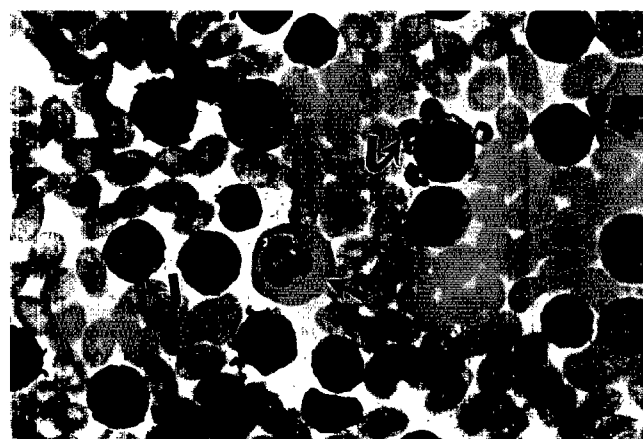


Photo 2 : Peripheral blood film. Lymphoblasts and atypical lymphocytes showing cytoplasmic blebs (curved arrow right upper), double nucleus (curved arrow left lower) and weak stainability of cytoplasm (short arrow centre), Giemsa's stain.

TABLE I Haematological results of the peripheral blood.

Blood constituents	Present values	Reference values
Total Erythrocytes (millions/mm ³)	4.0	7.6-11.0
Total Leukocytes (per mm ³)	400,000	2,900-9,700
Haemoglobin (%)	7.2	11.4-14.2
PCV (%)	16.0	24.0-42.0
Differential count		
Lymphocytes (%)	97.0	21.0-62.0
Neutrophils (%)	3.0	33.0-70.0
Eosinophils	—	—
Basophils	—	—
Monocytes	—	—

Communication

The camel's condition progressively deteriorated and it died a few days afterwards, but no autopsy was performed. Hence, information regarding peripheral lymphadenopathy and the involvement of internal organs is lacking. Although this case has not been substantiated by necropsy and histopathology, the high leukocytic count, the significant increase of lymphocytes in the differential count compared with the references values (4), the presence of immature, abnormal and atypical lymphocytes and the frequent mitosis are highly suggestive lymphocytic leukaemia. In cattle, dogs and cats, the leukaemic form of lymphoid neoplasia is uncommon (5). The loss of weight in addition to low haemoglobin concentration and erythrocyte count may indicate the possibility of chronicity and aggravation, which is in agreement with the case of lymphosarcoma (14), but it contrasted with the results found here that the leucocytic count did not show marked alteration in number, despite lymphocytosis. This condition appears to be quite rare in the dromedary in the light of the large number (average 500 per month) of camel blood samples that had been screened for trypanosomiasis during the last ten years.

References

1. ALTMAN (N.H.), LAMBORN (P.B.). Lymphocytic leukaemia in a Ferret (*Mustela fura*). *Vet. pathol.*, 1984, **21**:361-362.
2. CHAFFEE (P.S.). Fibromyxoma in a camel. *J. Am. vet. med. Ass.*, 1964, **144**, p. 1114.
3. EL HARIRI (M.N.), DEEB (S.). Cryptorchidism with interstitial tumour in a case of camel (*Camelus dromedarius*). *J. Egypt. vet. med. Ass.*, 1979, **39**: 39-46.
4. HIGGINS (A.J.), KOCK (R.A.). The camel in health and disease. 1. A guide to clinical examination, chemical restraints and medication of camel. *Br. vet. J.*, 1984, **140**: 485-504.
5. MOULTON (J.E.). Tumors in domestic animals. 2nd edn, Los Angeles, University of California Press, 1978. p. 150-196.
6. PUROIHT (N.R.), CHOUHAN (D.S.), VYAS (U.K.). Chest-pad fibroma in camel. *Indian J. vet. Surg.*, 1986, **7**: 53-54.
7. RAMADAN (R.O.), EL HASSAN (A.M.). Fibrous epulis in a onc-humped camel (*Camelus dromedarius*). *Zentbl. VetMed.*, 1980, **27A**: 675-677.
8. ROUE (A.). Fibromatose du dromadaire. *Archs Inst. Pasteur, Algér.*, 1945, **23**: 277-278.
9. ROUE (A.). Un cas de fibromatose cervicale diffuse chez le chameau. *Revue Elev. Méd. vét. Pays trop.*, 1949, **3**: 45-46.
10. SADANA (J.R.), MAHAJAN (S.K.), SATIJA (K.C.). Note on papilloma in a camel. *Indian J. Anim. Sci.*, 1980, **50**: 793-794.
11. SRA (I.S.), CHOUHAN (D.S.), SHARMA (G.D.), ARYA (P.L.), VYAS (U.K.). Note on myxofibroma in camel. *Indian J. Anim. Sci.*, 1982, **52**: 1150-1151.
12. TAGELDIN (M.H.), FAYZA (A.O.). Note on squamous cell carcinoma in a camel *Camelus dromedarius*. *Indian J. Anim. Sci.*, 1986, **68**: 504-505.
13. VITOVEC (J.). Renal cell carcinoma in a camel (*Camelus dromedarius*). *Vet. Pathol.*, 1982, **19**: 331-334.
14. YOUSSEF (H.A.), EL SEBAIE (A.), TAHA (M.M.), MAKADY (F.). Lymphosarcoma in a dromedary. *Vet. med. Rev.*, 1987, **1**: 68-71.

TAGELDIN (M.H.), AI SUMRY (H.S.), ZAKIA (A.M.), FAYZA (A.O.), Suspicion of a case of lymphocytic leukaemia in a camel (*Camelus dromedarius*) in Sultanate of Oman. *Revue Elev. Méd. vét. Pays trop.*, 1994, **47** (2): 157-158

The peripheral blood picture of a suspected case of lymphocytic leukaemia in a dromedary camel is described. The authors discuss their findings. This condition seems rare in comparison with the results of a large number of blood samples examined during the last ten years.

Key words : Dromedary - *Camelus dromedarius* - Leukaemia - Lymphocyte - Neoplasm - Blood - Blood sampling - Oman.