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

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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.


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.

<table>
<thead>
<tr>
<th>Blood constituents</th>
<th>Present values</th>
<th>Reference values</th>
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<tbody>
<tr>
<td>Total Red Blood Cells (millions/mm³)</td>
<td>4.0</td>
<td>7.6-11.0</td>
</tr>
<tr>
<td>Total Leukocytes (per mm³)</td>
<td>400,000</td>
<td>2,900-9,700</td>
</tr>
<tr>
<td>Haemoglobin (%)</td>
<td>7.2</td>
<td>11.4-14.2</td>
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<tr>
<td>PCV (%)</td>
<td>16.0</td>
<td>24.0-42.0</td>
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</tbody>
</table>

1. Ministry of Agriculture and Fisheries, Veterinary Laboratory Rumais, POB 467, Muscat, Sultanat d'Oman.
2. Central Veterinary Research Administration, POB 8067, Khartoum, Soudan.
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 trypanosomosis during the last ten years.

References


TAGELDIN (M.H.), AL SUMRY (H.S.), ZAKIA (A.M.), FAYZA (A.O.), SUSPICION OF A CASE OF LYMPHOCYTIC LEUKAEMIA IN A DROMEDARY CAMEL IS DESCRIBED. THE AUTHORS DISCUSS THEIR FINDINGS. THE 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 - Lymphocytic Neoplasm - Blood - Blood sampling - Oman