Brief Communication

Burkitt's Lymphoma in a White-handed Gibbon (Hylobates lar)

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Spontaneous lymphoid malignancies have rarely been observed in nonhuman primates. To date, only 3 lymphatic leukemias, 2 lymphomas, and 1 lymphogranuloma have been reported in Old World monkeys, with Cercopithecoid species accounting for half of the cases (3, 5).

A malignant lymphoma, histologically indistinguishable from Burkitt's lymphoma in man, has been observed in a gibbon and is described here. This 4- to 5-year-old female gibbon, Hylobates lar, was acquired from southeast Asia by the Department of Anatomy, University of Chicago, in the spring of 1964. Her laboratory stay was spent singly in a standard primate cage; however, for a short period, she was housed in a communal cage with Ateles belzebuth, Lagothrix lagotricha, Cebus capucinus, and Cercopithecus mona. She developed intimate contact with the Cercopithecus mona, the only African species. Her diet consisted of a commercially prepared monkey chow and assorted fruits, with occasional vitamin and mineral supplement. Except for some studies in locomotion, no experimental procedures were performed on her. Normally, she was quite active and became easily excited by human handling. There were occasional episodes of delayed responsiveness in which she was more difficult to excite and initially ignored attempts to handle her. Other than these periods she remained in good health for about 15 months.

In June 1966, she appeared to have one of these episodes of delayed responsiveness except that she could be handled. This was followed by lethargy, anorexia, and diarrhea of one week's duration. A physical examination at this time revealed weakness, mild dehydration, a yellow diarrhea, enlarged inguinal lymph nodes, a palpable mass in the right lower quadrant of the abdomen, and minimal peristaltic sounds. She was fed a bland diet and Neomycin² was administered. After the gibbon spent two days in this condition, an exploratory laparotomy was performed and a section from the palpable mass removed for histologic examination. She died at the end of the surgical procedure.

At autopsy, the mesentery was studded with glistening white nodular masses; the largest measured 1.5 cm in diameter. The lumbar, inguinal, and axillary lymph nodes and spleen were greatly enlarged. The liver was moderately enlarged and studded with multiple white foci, 1-2 mm wide. There was a pathologic fracture at the midpoint of the right ninth rib.

The jaw bones (mandible and maxilla), kidneys, adrenal glands, pancreas, stomach, intestine, ovaries, thyroid, and salivary glands were not unusual. The thymus did not appear enlarged. The inguinal lymph nodes, thymus, and spleen were sampled for possible virus isolation and identification.

Histologic examination confirmed the involvement of lymph nodes, liver, spleen, and bone marrow by malignant lymphoma. The tumor was of rather uniform appearance. Sheets of lymphoid cells and scattered histiocytes gave the impression of a "starry sky" (Figs. 1, 2). Marrow was replaced by tumor cells which also invaded and destroyed the cortical bone in the fractured rib. This tumor was classified as a malignant lymphoma of the poorly differentiated lymphocytic type (4).

Histologically, this lymphoma differs from those reported previously in nonhuman primates, most notably in the occurrence of histiocytes and the resulting "starry sky" appearance. This is not unlike the characteristic histologic appearance of Burkitt's lymphoma in man (4). Lymphomas with this histologic feature have also been reported in cats and dogs (1, 2, 6). Common histologic features may signify other relationships which may be extrapolated if they occur in a species closely related to man.

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REFERENCES


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Fig. 1. Mesenteric lymph node demonstrating “starry sky” appearance. H & E, × 50.

Fig. 2. Sheet of lymphoid cells with a diffuse scattering of histiocytes in mesenteric lymph node. H & E, × 500.
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