

Leukemia in the Gibbon

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OBJECTIVE: The objective of this study is to determine the incidence of leukemia in the gibbon colony, to characterize clinically and pathologically this disease in the gibbon, and to evaluate its transmissibility.

DESCRIPTION: Gibbons in the SMRL animal colony are screened periodically to detect developing cases of leukemia. Gibbons in which leukemia has been detected are placed under close observation and clinical, hematological, and pathological methods are employed to characterize the development of the disease. Necropsies are done on gibbons that die and tissues from them have been inoculated into gibbons and other laboratory animals to determine if the disease is transmissible.

To date, five cases of granulocytic leukemia have occurred "spontaneously" in the gibbon colony (S-74, S-76, S-86, S-90, S-93), in addition to the four cases of malignant lymphoma described earlier¹. Cases S-86 and S-93 were not studied in detail. A detailed histological examination was done on the other three cases, and bone marrow from one, S-74, was inoculated into 2 baby gibbons, 2 stump-tailed macaques, mice, hamsters, and guinea pigs. Of the 2 baby gibbons inoculated, one died of a laboratory accident and the other (PC-7) developed leukemia 8 months later. No disease appeared in any of the other animals.

PROGRESS: During the report period PC-7 was sacrificed and bone marrow was inoculated into two additional baby gibbons (PC-6, PC-8). Tissue was also examined for the presence of oncogenic viruses. PC-8 subsequently developed leukemia and was sacrificed. Bone marrow was passed to another gibbon (PC-17) and tissue was examined for oncogenic virus. The remaining case of "spontaneous" leukemia (S-76) was also sacrificed, bone marrow was passed to a young gibbon (PC-10) and tissue was examined for virus. At this time, PC-6, PC-10 and PC-17 remain clinically well.

Virus Isolation studies were done by Dr. Thomas Kawakami at the Oncology Laboratory, University of California, Davis. An RNA C-type virus was isolated from every animal studied (S-76, PC-7, PC-8). Sera from most of the gibbons in the colony were examined for the presence of antibody against this virus and many were found to be positive.

A manuscript has been submitted for publication.

REFERENCE :

1. Johnsen, D.O., Wooding, W.L., Tanticharoenyos, P., and Bourgeois, C.H.: Malignant lymphoma in the gibbon; J. Amer. Vet. Med. Assoc., 159: 563, 1971.