Pathology of Dirofilariasis in the Gibbon

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OBJECTIVE: The study was undertaken to characterize the pathology of *Dirofilaria immitis* infection in the gibbon and to compare the lesions in the gibbon with those produced by the parasite in the dog and man.

DESCRIPTION: Four gibbons were infected with larvae of *Dirofilaria immitis* and sacrificed at intervals of 6, 9 and (two animals) 14 months post infection. (Detailed information on experimental design and clinical data are given elsewhere in the report.)

PROGRESS:

A. Gross Pathology: Adult viable *Dirofilaria immitis* were present in the right ventricle and/or pulmonary arteries of all animals at time of necropsy. In three animals (9 and 14 month infections) remnants of decomposed nematode were lodged in branches of the pulmonary arteries. Segmental rugous endarteritis of the pulmonary arteries and their main branches was the principal gross change. The lumen of larger vessels was distended and the wall of muscular arteries was markedly thickened. Acute pulmonary infarction was present in one animal while focal pulmonary scars were noted in another gibbon.

B. Histopathology: Vascular changes were confined to the pulmonary arteries and their branches. These ranged from intimal thickening and fibrosis to marked villar proliferative endarteritis. Less frequent was a granulomatous necrotizing vasculitis which was always focal and associated with dead fragments of parasites. Focal interstitial pneumonitis and focal atalectasis were noted in areas adjoining affected vessels. Focal granulomatous hepatitis of varying intensity was present in all animals. Morphologically, the hepatic lesion is compatible with a parasitic etiology, however, multiple sections have failed to show the suspected cause.

SUMMARY: From these studies it would appear that the response of the gibbon to *Dirofilaria immitis* infection is similar to that of the dog, and consists principally of arteritis of pulmonary arteries.