STUDY REPORTS

8. Title: Strongyloidosis With Extensive Pulmonary Hemorrhage in the Gibbon (*Hylobates lar*).

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OBJECTIVE

Strongyloidosis associated with extensive pulmonary hemorrhage has not previously been observed in the gibbon (*Hylobates lar*). This appears to be a more severe response than has been reported in other species of higher primates. Histologic examinations were made to determine the location of the parasites within the lungs and their association with the hemorrhage.

PROGRESS AND DESCRIPTION

Two naturally infected *Hylobates lar* which died with pulmonary hemorrhage were used. Both animals had diarrhea which was followed by constipation before death. In each case the lungs were distended with blood. They were dark red wine colored and the hemorrhage was diffusely distributed throughout each lobe. Ruch, 1959, reported strongyloidosis in a chimpanzee that resulted in small discrete hemorrhages over the surface of the lungs. In contrast, the pulmonary hemorrhage in the gibbon was diffuse, uniformly filling each lobe.

Microscopic examination of the tissue revealed filariform larvae throughout the visceral organs and skeletal muscles. In the lungs, larvae were found in the adventitia of the arteries, in the peribronchial connective tissue, and free in the alveoli. Those in the alveoli were surrounded by polymorphonuclear and mononuclear cells. Those in loose connective tissue were usually not accompanied by any inflammatory reaction. The larvae, free in the alveoli, were all found in alveoli completely filled with blood. Nearly all of the alveoli contained hemorrhage, and only a few emphysematous alveoli remained open.

The larvae appear indiscriminate in their migration. The most numerous locations were in loose connective tissue, such as the adventitia of the arteries and in the loose connective tissue of the bronchi. They also migrated in the alveolar walls and disrupted the structure. The pulmonary hemorrhage appeared as a probable result of the physical disruption caused by the migrating larvae. Whole intact larvae taken from the intestinal tract were identified as *Strongyloides stercoralis.*

SUMMARY

Extensive pulmonary hemorrhage was associated with massive numbers of *Strongyloid stercoralis* larvae migrating through the lungs. The larvae were in nearly all of the structures of the lungs, particularly in the adventitia of the arteries.