

TUBERCULOSIS, AVIAN



This disease
is known to
occur in
Afghanistan.



1. Definition

Avian tuberculosis is a chronic debilitating infectious bacterial disease characterized by the formation of multiple caseating granulomas in internal organs.

2. Etiology

The causative agent is *Mycobacterium avium*, an acid fast bacillus.

3. Transmission

The organism is shed in abundance in fecal material and respiratory secretions from infected birds. It has long survivability in the environment, as long as 4 years in soil. Susceptible birds acquire the infection from contaminated environmental sources.

4. Species affected

All species of birds can be infected with *M. avium*. Disease is reported in many species of poultry, and also in numerous wild birds. *M. avium* can also infect and cause disease in mammals, including humans, especially those who are immunocompromised.

Mycobacterium avium can cause debilitating disease in immunocompromised humans.

5. Clinical signs

Incubation period is prolonged, and can be on the order of weeks to months. Usually only adult birds are affected. Morbidity is usually low and only one or a few animals in a flock might be affected. Clinical signs are not specific. Birds are unthrifty, dull, and have ruffled feathers. The disease can progress to atrophy of musculature and emaciation. Mortality is high.

6. Pathologic findings

Lesions of avian tuberculosis are very characteristic. There are pinpoint to extensive gray-yellow masses in multiple visceral organs. These masses (granulomas) have a caseous and yellow center, and may be surrounded by fibrous tissue. The granulomas are most frequently found in liver, spleen and intestine, but bone marrow is often affected as well.

7. Diagnosis

Diagnosis on clinical signs is not possible. On necropsy, the presence of multiple granulomatous masses is highly suggestive. Histopathology of the masses to reveal granulomas and multinucleate giant cells is diagnostic. It is also possible to culture *Mycobacterium avium*, but this requires specialized media and prolonged incubation. Differential diagnoses include colibacillosis and pullorum disease.

8. Treatment

There is no effective treatment for avian tuberculosis.

9. Prevention and Control

The best prevention is to maintain tuberculosis-free flocks. Tuberculin-testing of birds prior to introduction is one safeguard. Ensuring no contact with wild birds is also helpful. Thorough cleaning of premises after diagnosis will help prevent recurrence.