



Lecture title: SALMONELLOSIS; Lecture 2.

Lecturer Affiliation:

Lesions (PM.):

Young chicks and poults:

1. There may be few or no lesions in very young birds. Many birds have pasted white faeces in the vent area.
2. Nodules in one or more of the following sites: lungs, liver, gizzard wall, heart, intestinal or cecal wall, spleen, and peritoneum.
3. Frequently there are petechial hemorrhages or foci of necrosis in the liver.
4. When the intestine is opened, white plaques may be found in the intestinal mucosa and cheesy cores of debris may be found in the intestine or ceca.
5. The spleen frequently is enlarged. (This lesion, along with mucosal plaques and cecal cores, also occurs frequently in Salmonella infections other than pullorum disease.)
6. The ureters frequently are distended with urates.
7. Later there may be swollen joints in occasional birds.

Diagnosis:

1. In young chicks and poults, typical history, signs, and lesions may suggest pullorum disease.
2. Positive agglutination tests, either plate or tube using sera from convalescent surviving birds, or available kits may strengthen the diagnosis.
3. For a definitive diagnosis, *S. pullorum* must be isolated and identified.

Differential Diagnosis:

Diseases that must be differentiated from pullorum disease in young birds include:

- a. Chilling. Chilling is often associated with white diarrhea.
- b. Omphalitis (navel infection). Omphalitis occurs in this age group, often with diarrhea.
- c. Typhoid, paratyphoid, arizonosis (other salmonella infections).
- d. Colibacillosis.

It will be necessary to isolate and identify the etiologic agent to rule out these infections.



Fowl Typhoid:

Definition:

Fowl typhoid is an infectious disease, primarily of chickens and turkeys, with many of the clinical and epidemiologic features and lesions that occur with pullorum disease.

Most of the facts concerning pullorum disease are applicable to fowl typhoid.

Occurrence:

Most outbreaks occur in chickens or turkeys but the disease occasionally occurs in other poultry, game birds, and wild birds.

Etiology:

The etiologic agent is *Salmonella gallinarum*. This organism shares many antigens with *Salmonella pullorum*, the agent that causes pullorum disease, and the two organisms usually cross-agglutinate.

The epizootiology of fowl typhoid is similar to that of pullorum disease. *S. gallinarum* is more frequently transmitted among growing or mature flocks and the incidence and mortality in older birds is usually higher.

Clinical signs:

1. Signs of fowl typhoid and pullorum disease are similar in birds less than 1 month old.
2. Mature birds with fowl typhoid often have pale head parts (comb, wattles, face), shrunken combs and wattles.
3. Diarrhea.
4. Mortality can be extensive it may reach 30%.

Lesions:

Lesions of fowl typhoid and pullorum disease are similar in chicks and young poults.

Lesions of acute fowl typhoid in older birds include:

- A bile-stained (“bronzed”) enlarged liver with or without small necrotic foci.
- Enlargement of the spleen and kidneys.
- Pallor throughout the body and thin watery blood.
- Enteritis in the anterior small intestine, often with ulceration.

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