

Pasteurella or Riemerella anatipasifer
(RA)

(Duck septicaemia, infectious serositis)

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Definition

It is an acute septicaemic or chronic contagious disease of growing duckling characterized by serofibrinous pericarditis, perihepatitis and airsacculitis, caseous salpingitis and meningitis and high mortality in ducklings (75%).

Economic losses

- 1. High mortality.**
- 2. Loss of weight.**
- 3. Poor feed conversion.**
- 4. High condemnation rate.**
- 5. High cost of treatment and prevention.**

The causative agent

Pasteurella or Riemerella anatipastifer (RA) organism is a Gram negative, non motile, non spore forming bipolar rods using Wrights stain.

Capsule can be detected by Indian ink.

Resistant to GENTAMYCIN but sensitive to other antibiotics

The causative agent

It grows well on blood agar Chocolate agar and tryptose soya agar, the growth increased by adding 0.05% yeast extract and 5% new borne calf serum and increase Co₂ .

Colonies are convex, transparent, glistening.

No growth on MacConkey, no hemolysis on blood agar and no carbohydrate fermentation.

Agglutination and AGP test for surface antigen revealed presence of 20 serotypes using antisera in rabbit.

Susceptibility

- **Ducklings aged 1-8 weeks are highly susceptible and birds under 5 weeks usually die 1-2 days after the onset of clinical signs.**
- **The disease in laying birds is rare.**
- **RA is a potential pathogen to turkeys aged 6-15 weeks.**

Mode of infection and transmission

- **Inhalation of infected droplets.**
- **Wound infection.**
- **Direct and indirect contact.**
- **Carrier birds.**

Clinical signs

- **Respiratory signs (nasal and ocular discharges, sneezing and coughing).**
- **Nervous signs (Ataxia, tremors of the head and neck and coma).**
- **Greenish diarrhea.**
- **Survival ducks may stunted.**

Clinical signs

- **Environmental factors or diseases stress act as predisposing factors, where mortality ranged from 5 to 75 % in relation to other factors as age, route of infection and the strain virulence.**

Post-mortem lesions

- **Fibrinous pericarditis.**
- **Fibrinous perihepatitis.**
- **Fibrinous airsacculitis.**
- **Caseous salpingitis.**
- **fibrinopurulent pneumonia.**
- **Arthritis.**
- **Fibrinous meningitis.**
- **Enlarged and mottled spleen.**

Post-mortem lesions

In the chronic form, the most predominant lesions in the skin in the form of necrotic dermatitis on the lower back or around vent with yellowish exudates between skin and the fat layer.



Central nervous system infection



Caseous exudate located in the head region (subcutis)



Swollen head

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Photograph / Copyright - James Runningen.
Fibrinous covering on the heart and liver of a bird with *Pasteurella anatipestifer*.



Submandibulare oedema



perihepatitis



Spinal cord compression .



Vertebral osteomyelitis
(spondylitis)

Diagnosis

- **Signs and lesions.**
- **Isolation and identification of the organism.**

Samples from heart blood, brain, pericardial exudates, air sacs, lungs , liver and oviduct.

Detection of bipolar organism in blood or tissue smear stained by Gimsa.

Differential diagnosis



- **Riemerella anatipastifer infection should be differentiated from Fowl cholera, colibacillosis, streptococcosis and salmonellosis infections.**
- **In turkeys, Riemerella anatipastifer must be additionally differentiated from chlamydiosis.**

Prevention

- **Sanitary measures.**
- **Avoid stress factors.**
- **Prevent contact of the birds with different species, sources and ages.**
- **Inactivated vaccine must be containing a serotype specific to that cause endemic infection or frequent infection in the farm. It contains serotypes 1 , 2 and 5 and given at 2-3 weeks of age to induce protection till marketing .**
- **Live RA vaccine from serotype 1, 2 and 5 given by drinking water or spray to day old birds can induces protection till 42 days of age.**

Control

- **Sulfamethazine (0.2 -0.25%) in water or feed, sulfaquinoxaline (0.025-0.05%) in feed and lincomycin (0.011-0.022 %) in water are effective.**
- **The use of drugs in relation to sanitary measures during infection must be considered.**



THANK



YOU