



Tikrit University  
College of Veterinary Medicine

# Avian Encephalomyelitis

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Lecturer name: Ismael I. Hasan

Academic

Email:ismailhasan@tu.edu.iq



Lecturers link



## Avian Encephalomyelitis

### Affected species

Avian encephalomyelitis (AE) is an infectious viral disease affecting young Chickens, pheasants, coturnix quail, pigeons and turkeys. Jones first encountered AE in 1930 in two-week-old commercial Rhode Island red chicks showing tremors,

**Synonym:-** because of head and neck tremor it was often called “epidemic tremor.”

**Public health & economy:-** No public health significance has been attached to this disease. The disease was of great economic importance to the commercial poultry industries prior to the widespread use of vaccines in the early 1960s.

**Etiology:-** Avian encephalomyelitis virus (AEV), genus *Hepatovirus* is a member of the Picornaviridae family, hexagonal virion profile included single-stranded RNA and lacking envelope.

### Forms of disease:-

1-Enteric

2-Nurologic

### Transmission:-

1- Vertical and Horizontal rout

2- Under natural conditions, AE is essentially an enteric infection, Virus is shed in the feces for a period of several days and infected litter is a source of virus.

3- Exposure via the respiratory tract may be unimportant.

### **Morbidity and Mortality:-**

- The usual morbidity rate is 40–60%
- Mortality averages 25% and may exceed 50%.

### **Clinical Signs:-**

- 1-Occure in chicks at 1–2 weeks of age.
- 2-Dull expression of the eyes.
- 3-Progressive ataxia from incoordination of the muscles.
- 4-Chicks show an inclination to sit on their hocks.
- 5-Rest or fall on their sides.
- 6-Tremors of the head and neck.
- 7-Inanition, prostration, and finally death.
- 8-Signs may disappear completely.
- 9-Survivors may later develop blindness from an opacity giving a bluish discoloration to the lens.
- 10-Mature birds may experience a temporary drop in egg production (5–10%) but do not develop neurologic signs.

### **Gross Lesions:-**

The only gross lesions associated with AE in chicks are **Whitish areas** (due to masses of infiltrating lymphocytes) **in the muscularis of the ventriculus**. No changes have been described for infected adult birds, other than the lens opacities described in “Clinical Signs.”

### **Immunity:-**

**Active:-** When chickens are immunologically competent, the serologic response can be relatively rapid. chicks from eggs laid as early as 11 days after exposure already carried passively acquired antibodies, because they were resistant to contact exposure after hatching.

**Passive:-** Antibodies were demonstrated in the serum until 4–6 weeks of age.

**Diagnosis:-**

- 1- Isolation and identification of causative agents
- 2- Serology

**Differential Diagnosis:-**

- 1- Gliosis
- 2- Newcastle disease,
- 3- Nutritional disturbances (rickets, encephalomalacia, riboflavin deficiency)
- 4- Marek's disease.

**Homework**

Why it is very important that embryo adaptation of strains used for live virus vaccines does not occur ?