RANIKHET DISEASE

(NEW CASTLE DISEASE)

A dreaded enemy of poultry flocks. It is prevalent in India since 1928. Chikens are highly susceptible, in general, younger the chicken the more serious is the disease.

The disease is also called as New Castle Disease or Doyle’s disease. It is an acute, infectious & highly contagious disease of fowls, characterized by respiratory Distress, nervous symptoms & high mortality.

Ranikhet disease has become a major menace to the world’s poultry industry. It represents a serious economic challenge to all segments of the poultry.

*Susceptibility:* - chicks are highly susceptible. Adults are comparatively less. Turkeys, pigeons, ducks are also susceptible. In human beings, it causes Conjunctivitis. Birds of all ages are susceptible. Host ranges from chicken, turkeys, guinea fowls, ducks, doves, geese, pigeons, pheasants, crows, sparrows & other free flying birds.

*Etiology:* - Newcastle disease is caused by viruses in the serotype *avian paramyxovirus type 1 (APMV-1)*. These viruses, which are called either APMV-1 or Newcastle disease viruses (NDV), are members of the genus *Avulavirus* in the family Paramyxoviridae.

The disease is caused by a filterable virus, which belongs to micro group having a molecular weight 450 million. The virus is multi-shaped, tailed, sperm like & filamentous form. The virus consisted of 67% protein, 27% lipids & a small amount of nucleic acid mainly deoxypentose. The virus possesses haemagglutination activity (HA) for chicken erythrocytes resembling that of Influenza virus.

The clinical signs vary with the pathogenicity of the isolate and the species of bird. There are three strains of this virus

1) Velogenic-very virulent-
2) Mesogenic-strains can cause acute respiratory disease and neurologic signs in some chickens, but the mortality rate is usually low.
3) Lentogenic- In chickens, lentogenic strains usually cause sub clinical infections or mild respiratory

Major Signs-
1) Sudden Appearance with heavy Mortality
2) Increases Respiration and Weakness
3) Greenish Diarrhoea
4) Reduced Egg Production with weak & Shell Less Eggs.
5) Muscular Tremors & Trorticollis
6) Paralysis of Wings & Legs.
7) Opisthotonos
8) Prostration & death

Incubation period -

The incubation period in poultry varies from 2 to 15 days depending on the virulence of the strain and the susceptibility of the population.

*Transmission:* -
- By inhalation or Ingestion
- Movement of Live Birds and other Animals, People ,Poultry Products & Equipment
- Contaminated Vaccines
- Direct contact with infected birds,
- Indirect contact such as infected utensils, feed, water, litter

There are three forms of the disease
1) Per-acute form- In this form most of the birds found dead within 3-4 days.
2) Acute Form- watery & yellowish diarrhea as well as spasms

High Mortality

Swelling of head,
Respiratory signs
3) Chronic Form:- In this form, paralysis of legs & wings occur due to degenerative changes in the nerves & the bird dies due to Inanition.

*Signs in laying Flock:-drop in egg production, laying of soft or imperfectly shelled.

Laying of soft or imperfectly shelled

*Post-mortem Changes:-
- Hemorrhages in proventriculus, caecal tonsils, brain, liver, lungs, kidney, mesentry, trachea & bursa
- Liquification of ova
- Spleenomegaly

Haemorrhagic Ulcers in the
Proventriculus
Intestine

*Diagnosis- can be made on
1) Symptoms and Lesions
2) Detection of Antibodies
3) Virus Isolation

*PREVENTION AND CONTROL:
1) Strict Biosecurity Practises:
   KOHRSOLIN – TH SPARY 3%
2) Vaccination
   Control:- No treatment is advisable; sanitary measures are to be taken. Poultry house, incubators should be properly disinfected sterilization of utensils may be carried regularly. Quarantine measures may be taken. Keep the incoming birds in isolation ward for 15 days.

For more details please contact:
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