Introduction

- A highly contagious viral disease affecting young geese and Muscovy ducks.
- Depending on the age of affected birds: acute, subacute, or chronic forms.
- The acute form of the disease can result in 100% mortality in goslings less than 10 days of age.

GOOSE PARVOVIRUS INFECTION (GPV) (Derzsy's disease, Goose influenza)

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Susceptibility

- Geese, Muscovy ducks are the only affected species.
- Other breeds of domestic poultry and ducks appear refractory
- The disease is strictly age dependent i.e.100% mortality may occur in goslings under 1 week of age
- Older geese no clinical signs but latent infection and transmit virus in feces and eggs.

Etiology

- Parvovirus belong to family Parvoviridae.
- Un-enveloped and hexagonal single-stranded DNA
- No hemagglutination activity
- GPV is very resistant to chemical and physical inactivants.
- GPV isolated only on primary cell cultures or embryonated goose or Muscovy duck eggs:
  - Embryo mortality 5-10 days post-inoculation
  - Hemorrhages and ochre-colored livers

C. Signs

- **Vary according to the age:**

1. In goslings under 1 week of age (Acute):

- The course of the disease may be very rapid.
- Anorexia, prostration, and death occurring within 2-5 days.
- In goslings infected in the hatchers Mortality can reaches 100%.
- In 2-3 week-old goslings high morbidity, low mortality (10%)
- Complicating factors such as poor management and secondary bacterial may influence the final mortality levels.

Transmission

- Infected birds excrete large amounts of virus in their feces:
  - Direct
  - Indirect contact.
- The most serious outbreaks occur in susceptible goslings following vertical transmission of the virus.
- Old infected birds may act as carriers

C. Signs

- **Vary according to the age:**

3. Birds survived acute, subacute form (Chronic form):

- Growth retardation.
- Defeathering around the back and neck, with reddened exposed skin.
- Ascitis: bird stand in a "penguin- like" posture. "

4. ≥ 4 Wks of age (Latent form):

- Birds respond immunologically without clinical signs.
- Fibrinous pseudomembrane covering the tongue and oral cavity.

C. Signs

- **Vary according to the age:**

2. In older birds or MDA (Sub-acute):

- Protracted course
- Anorexia, polydipsia, and weakness with a reluctance to move.
- Nasal and ocular discharge and headshaking. Swollen red eyelids
- Profuse white diarrhea
- Fibrinous pseudomembrane covering the tongue and oral cavity.

PM lesions

1. **Acute form:**
   - Pale myocardium and rounded apex.
   - Swollen congeste liver, spleen, kidneys and pancreas
   - Catarrhal/fibrinous/necrotic/haemorrhagic enteritis
2. **Subacute Chronic form:**
   - Sero-fibrinous perihepatitis and pericarditis.
   - Ascitis and Pulmonary edema.
   - Hemorrhages in thigh and pectoral muscles.
   - Diphtheritic and ulcerative lesions in the mouth, pharynx and oesophagus..

C. Signs

Diagnosis

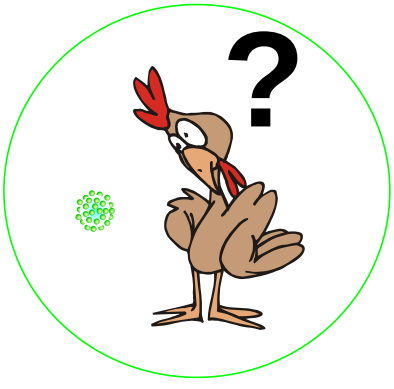
- Clinical signs and lesions.
- Isolation and Identification of Goose Parvovirus onto 10-15 day-old embryonated goose or Muscovy duck eggs
- **Virus neutralization with specific goose parvovirus antiserum.**
- Serology: to determine the susceptibility of breeder progeny
- Agar gel diffusion test using rabbit anti goose parvovirus serum
- ELISA

Prevention

- Good farm and hatchery hygiene
- Only eggs from known parvovirus-free flocks should be incubated together.
- Regular serological testing to identify positive reactors to be removed from the flock
- Active immunization of adult breeding geese and Muscovy ducks with (virulent attenuated, or inactivated vaccines) to transfer antibodies to the progeny
- The passively acquired antibody may persist at a relatively high level until about 2 weeks of age.

Differential Diagnosis

- DVE and DHV.
- Pasteurella anatipestifer and Pasteurella multocida



Treatment

- **Very expensive**
  - Hyper immune serum therapy as two doses of serum (0.5-1ml per bird S/C or I/M) are required
  - Hyper immune serum could be used as prophylactic measures.
  - Antibiotic is required to suppress secondary bacteria.