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Popular Article

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Leechi Disease: A Growing Threat to Poultry Farmers

Dr. Rinku, MVSc, Veterinary Public Health and Epidemiology, LUVAS, Hisar

Dr. Anish Koul, MVSc, Veterinary Physiology, ICAR-NDRI, Karnal

Dr. Naveen Kumar Sheoran, PhD Scholar Animal Genetics & Breeding, LUVAS, Hisar

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Synonyms: Litchi heart disease, Hydropericardium syndrome (HPS), Angara disease, Hydropericardium-hepatitis syndrome, Lychee disease, Inclusion body hepatitis-hydropericardium syndrome (IBH-HPS)

Sudden and severe infectious disease of chickens characterized by high morbidity and mortality, excess accumulation of straw-coloured clear fluid under the covering of the heart (pericardium), swollen pericardial sac, and the presence of many necrotic foci in the liver. Mortality ranges in India from 30% to 80%, with an average of 61.62%. Although the disease is more prominent in summer and rainy seasons, sporadic outbreaks do occur in winter as well.

History: The first occurrence was reported in Angara Goth of Karachi (Pakistan) in August 1987. In India, HPS was first noticed in the poultry belt of Jammu and Kashmir, Punjab, and Delhi during April-July 1994, although some cases were reported prior to that time. After a few months, the disease spread to Terai of Uttarakhand in November 1994. Several outbreaks were recorded in and around Haldwani in the Nainital district of Uttarakhand, followed by the spread of disease to other parts of the country, viz., Uttar Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu, and Kerala, resulting in huge economic losses.

Etiology: Caused by a disease-producing Group I adenovirus (serotype 4).

Susceptible Hosts: Mainly broiler birds of 3-6 weeks of age.

Transmission:

- By contact,
- Overcrowding,

- Lack of hygiene,
- Use of old litter,
- Improper ventilation,
- Lack of biosecurity,
- Mechanically by vaccinators,
- Multi-age flocks on farms,
- Closeness of multi-age farms,
- Faecal contamination of clothes,
- Carelessness in vaccination schedule,
- Live-bird trading increases the spread of viral agents.
- Footwear and equipment, including transport crates.

Clinical Signs: In natural outbreaks of HPS, the affected birds may not exhibit any clinical signs other than sudden heavy mortality.

In the terminal stages, the birds become dull and depressed and show a characteristic posture, with their chest and beak resting on the ground and with closed eyelids (Figure-1&2: Crouching position in sick birds). About 4-6 hours before death, birds become debilitated, lethargic, huddling with ruffled feathers, and are reluctant to move until they die. There is usually yellow mucoid dropping.



Figure- 1



Figure- 2

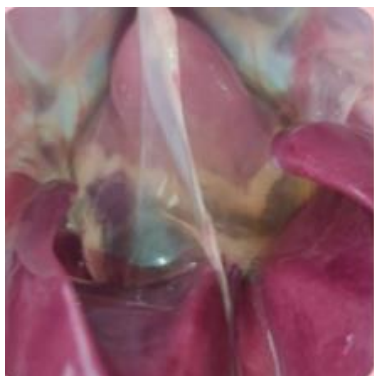


Figure- 3



Figure- 4



Lesions: Excessive accumulation of clear watery/jelly-like, straw/amber, or green-colored fluid in the pericardial sac (Figure- 3: Hydropericardium Syndrome) and swelling of liver (Figure- 4: Hepatomegaly)

Haematological/Biochemical Examination:

- Severe anaemia, decrease in total erythrocytes and leucocytes
- Increased heterophils, eosinophils, and monocytes
- Decreased lymphocytes and basophils
- Decrease in the concentration of blood glucose and total proteins

Diagnosis:

- On the basis of signs and symptoms
- Post-mortem lesions
- Haematological examination
- Isolation of virus
- ELISA
- Agar gel diffusion
- PCR

Treatment: There is no specific treatment for this disease. Antibiotics (Amoxicillin, Enrofloxacin, Vancomycin etc.) are used to prevent the secondary bacterial infection.

Stop feed for 36 hours & give grains with salt 400 gm/qt plus Amino acids. Plus, Calcium @ 500ml/1000 birds. Logic behind giving this formula is the kidney & liver are swollen & they may not digest proteins so giving grains will give some relief.

Give liver tonic with lipotropic factor like Choline chloride @ 200-300 ml/1000 birds along with acetic acids 15ml (500gm wt.) for 4-5 days. In India homeopathic medicines are also available but their efficacy is inconsistent.

Control: It is strictly important to maintain **biosecurity** to control this disease, as well as cleaning and disinfecting of premises and equipment;

Restriction of entry and/or personal protection of visitors and vaccination crews into the poultry house all play an important role in IBH and HPS prevention.

Application of glutaraldehyde and calcium hydroxide liquid combination under ambient temperature of 21°C

Breeder flocks should be at least **2 KM** away from commercial farms.

A killed or inactivated vaccine should be given, which is supposed to provide 80% protection against the disease.

About Biosecurity: Biosecurity refers to the practices and measures taken to prevent the



introduction and spread of harmful diseases, pests, and other threats to plants, animals, and humans. Biosecurity on a poultry farm is crucial for maintaining the health and productivity of your birds. It involves practices designed to prevent the introduction and spread of diseases, pests, and other harmful agents. Here is a detailed outline:

1. Physical Barriers

Fencing: Ensure your poultry farm is enclosed with strong fencing to prevent access by wild birds, animals, and unauthorized people.

Controlled Access Points: Limit entry points to your poultry areas and make sure they are secured and monitored.

2. Sanitation

Cleaning: Regularly clean and disinfect poultry houses, equipment, and feeding and watering systems. Use approved disinfectants and follow the manufacturer's instructions.

Waste Management: Properly dispose of manure, litter, and dead birds. Composting or using biosecure waste disposal methods is recommended.

3. Personal Hygiene

Protective Clothing: Provide and require the use of protective clothing, such as boots, gloves, and coveralls, for anyone entering the poultry area.
Hand Washing: Ensure all personnel wash their hands thoroughly before and after handling birds or equipment.

4. Disease Prevention

Vaccination: Follow a comprehensive vaccination program tailored to the specific diseases common in your area.

Health Monitoring: Regularly monitor the health of your birds and be vigilant for signs of illness. Promptly isolate and treat sick birds.

5. Biosecure Practices

Quarantine New Birds: Keep new or returning birds separate from the existing flock for a period to observe for any signs of disease.

Avoid contact with wild birds: minimize interaction between domestic poultry and wild birds, as they can carry diseases.

6. Feed and Water Management

Secure Storage: Store feed and water in sealed containers to prevent contamination from pests and animals.

Regular Checks: Regularly check feed and water sources for cleanliness and freshness.

7. Environmental Controls

Ventilation: Ensure proper ventilation to reduce the buildup of harmful gases and maintain optimal air quality.

Temperature and Humidity: Maintain appropriate temperature and humidity levels to support bird health and comfort.

8. Record Keeping

Documentation: Keep detailed records of health inspections, vaccination schedules, and any occurrences of disease. This helps in monitoring trends and managing outbreaks.

9. Training and Awareness

Education: Train all staff in biosecurity measures and ensure they understand the importance of adhering to these practices.

Regular Reviews: Periodically review and update biosecurity protocols to address new threats or changes in regulations.

10. Emergency Preparedness

Develop a biosecurity **plan** for managing disease outbreaks, including protocols for isolation, treatment, and reporting. Have a list of **contacts** for veterinary services and emergency response teams readily available. Implementing these biosecurity measures can significantly reduce the risk of disease and help maintain a healthy and productive poultry operation.

