

Advisory on AFRICAN HORSE SICKNESS (AHS)

African Horse Sickness (AHS) is a highly infectious and deadly disease caused by a virus of the genus Orbivirus of the family Reoviridae. Nine serotypes of the disease are prevalent.

2. **Host range** - Usual hosts are equids i.e. horses, mules, donkeys and zebra. Wild ass is also susceptible. However, elephants, camels, rhinoceroses and dogs can be infected, as well, but often show no signs of the disease. Dogs usually contract the disease by eating infected horse meat. **The disease is not zoonotic in nature.**
3. **Transmission** - The disease spreads by insect vector Culicoides (midges) (especially *imicola* and *oxystoma*) species. The country, with high population of *imicola* sp., seems at a high risk. However, this disease can also be transmitted by species of mosquitoes, ticks and possibly, biting midges.
4. **Incubation** - The Incubation period is usually 7–14 days, but may be as short as 2 days. Mortality rate in horses is 70-95%, in mules around 50% and in donkeys around 10%. Zebras act as reservoir hosts.
5. **Sources of infection** - Sources of virus are viscera, blood of infected horses, semen, urine and nearly all secretions during viraemia. Viraemia usually lasts 4–8 days in horses but may extend up to 21 days.
6. **Disease manifestation** - AHS manifests itself in four different forms -
 - a. **Acute respiratory or pulmonary form** - High Fever (40–41°C), dyspnoea, spasmodic coughing, dilated nostrils with frothy fluid oozing out, redness of conjunctivae. Nearly always fatal; death from anoxia within 1 week
 - b. **Subacute or cardiac form** - Fever (39–41°C), swelling of the supraorbital fossa, eyelids, facial tissues, neck, thorax, brisket and shoulders. Mortality usually 50% or higher; death usually within 1 week
 - c. **Subclinical form** (Horse sickness fever) - Mild-form; general malaise for 1–2 days, fever (40–40.5°C), very rarely results in death
 - d. **Mixed form (cardiac and pulmonary)** - Occurs frequently. Pulmonary signs of mild nature that do not progress, oedematous swellings and effusions. Mortality: about 70–80% or greater
7. **Laboratory diagnosis** – For laboratory diagnosis, un-clotted whole blood collected in an appropriate anti-coagulant at the early febrile stage should be sent at 4°C to the laboratory. Spleen, lung and lymph node samples collected from freshly dead animals are placed in transport media and sent at 4°C to the laboratory; **do not freeze**. Preferably, paired serum samples should be taken 21-days apart and kept frozen at -20°C for serology (ELISA). Virus isolated and identification done (by ELISA, RT-PCR, RT- qPCR) and virus typing (VNT, RT-PCR, RT- qPCR)

8. Prevention and Control

- a. No efficient treatment available
 - b. Stable all equids in insect-proof housing, at a minimum from dusk to dawn when *culicoides* are most active
 - c. Establish vector control measures by using insect repellents, insecticides, and/or larvicides. Destroy *culicoides* breeding areas
 - d. Maintain hygiene in the premises where equids are held
 - e. Undertake physical surveillance
 - f. Notify symptoms of the disease and any unusual mortality of equid species
 - g. Regulate movement of equines and ensure controlled movement with all protocols and testing
 - h. As the country is free from AHS, **vaccination is not recommended.**
 - i. Special care shall be taken in international movement of horses especially in cases of import from countries reporting AHS and adjacent countries. Precautions shall be taken and the equids inspected for any disease
 - j. If any suspected case is reported—
 - i. Movement restriction in the suspected farm
 - ii. Disinfection of the infected premises
 - iii. **Disease investigation and sample collection**—Sample shall be sent to ICAR-NRCE, Hisar under intimation to Department of Animal Husbandry and Dairying, MoFAH&D, GOI
 - iv. Collect few biting midges for testing in the laboratory
 - v. Provide instructions to horse owners/stakeholders on vector control/stabling equids in insect-proof housing, specific clinical symptoms and reporting channels
 - vi. Follow instructions from Department of Animal Husbandry and Dairying, MOFAH&D, GOI
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