

3. Kyasanur Forest Disease- Science & Technology

ICMR Advances Development of Improved Kyasanur Forest Disease Vaccine

The Indian Council of Medical Research (ICMR) has initiated Phase I clinical trials for an improved, indigenous vaccine against Kyasanur Forest Disease (KFD), a fatal tick-borne viral infection endemic to the Western Ghats. This marks a critical step in strengthening India's "One Health" defense against zoonotic outbreaks, aiming to protect vulnerable forest communities in states like Karnataka and Kerala.

New Vaccine Initiative

The Indian Council of Medical Research (ICMR) has initiated Phase I clinical trials for an improved indigenous vaccine against Kyasanur Forest Disease (KFD). This move follows approval from the Central Drugs Standard Control Organization (CDSCO).

About the New KFD Vaccine

Development Collaboration- The vaccine is being developed by the ICMR – National Institute of Virology (ICMR–NIV) in collaboration with Indian Immunologicals Limited (IIL).

Type & Formulation- It is a fully indigenous, inactivated, adjuvanted vaccine formulation.

Dosage Schedule- It is designed as a two-dose regimen, administered 28 days apart.

Current Clinical Status

Pre-clinical- Animal challenge and toxicity studies have been successfully completed.

Production- Good Laboratory Practice (GLP)-grade material has been produced for the trials.

Phase I Trials- Recruitment has begun. In this phase, typically dozens of participants are recruited to test the vaccine dose level and safety.

Public Health Significance- This development strengthens India's preparedness against tick-borne zoonotic diseases, particularly adopting a One Health approach for the endemic Western Ghats States.

About Kyasanur Forest Disease (KFD)

Definition- KFD is a tick-borne viral haemorrhagic fever caused by the Kyasanur Forest Disease Virus (KFDV).

History- It was first identified in 1956 in the Kyasanur Forest of Karnataka (often referred to as "Monkey Fever").

Endemic Regions- The disease is primarily found in the Western Ghats region, specifically affecting-

1. Karnataka
2. Kerala
3. Tamil Nadu
4. Goa
5. Maharashtra

Target Population- It predominantly affects forest-dependent communities and workers.

Transmission

1. Primary Vector- Bite of infected forest ticks, especially *Haemaphysalis spinigera*.
2. Secondary Route- Contact with infected animals, particularly sick or dead monkeys.

Symptoms- High fever, severe muscle pain, bleeding manifestations (haemorrhage), and low blood pressure.

Treatment- There is no specific antiviral treatment. Management is purely supportive (hydration, fever management). State governments provide free medical care for affected individuals.

Prevention

1. Vaccination (Current focus of improvement).
2. Use of tick repellents like DEPA oil.
3. Wearing protective clothing while entering forests.
4. Surveillance of monkey deaths (sentinel surveillance).

About Central Drugs Standard Control Organization (CDSCO)

Role- CDSCO acts as India's National Regulatory Authority (NRA).

Ministry- It operates under the Ministry of Health & Family Welfare.

Legal Status- It functions as a statutory body under the provisions of the Drugs & Cosmetics Act, 1940.

Key Functions

Approvals- Grants approval for new drugs, vaccines, and clinical trials in India.

Standardization- Regulates the standards, quality, and safety of drugs and medical devices.

Enforcement- Coordinates with State Drug Control Authorities to uniformly enforce the Drugs and Cosmetics Act, 1940 across the country.

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