



INTERNATIONAL SCHOOL OF MEDICINE

Department of Infectious Diseases

# **KYASANUR FOREST DISEASE (KFD)**

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# Definition

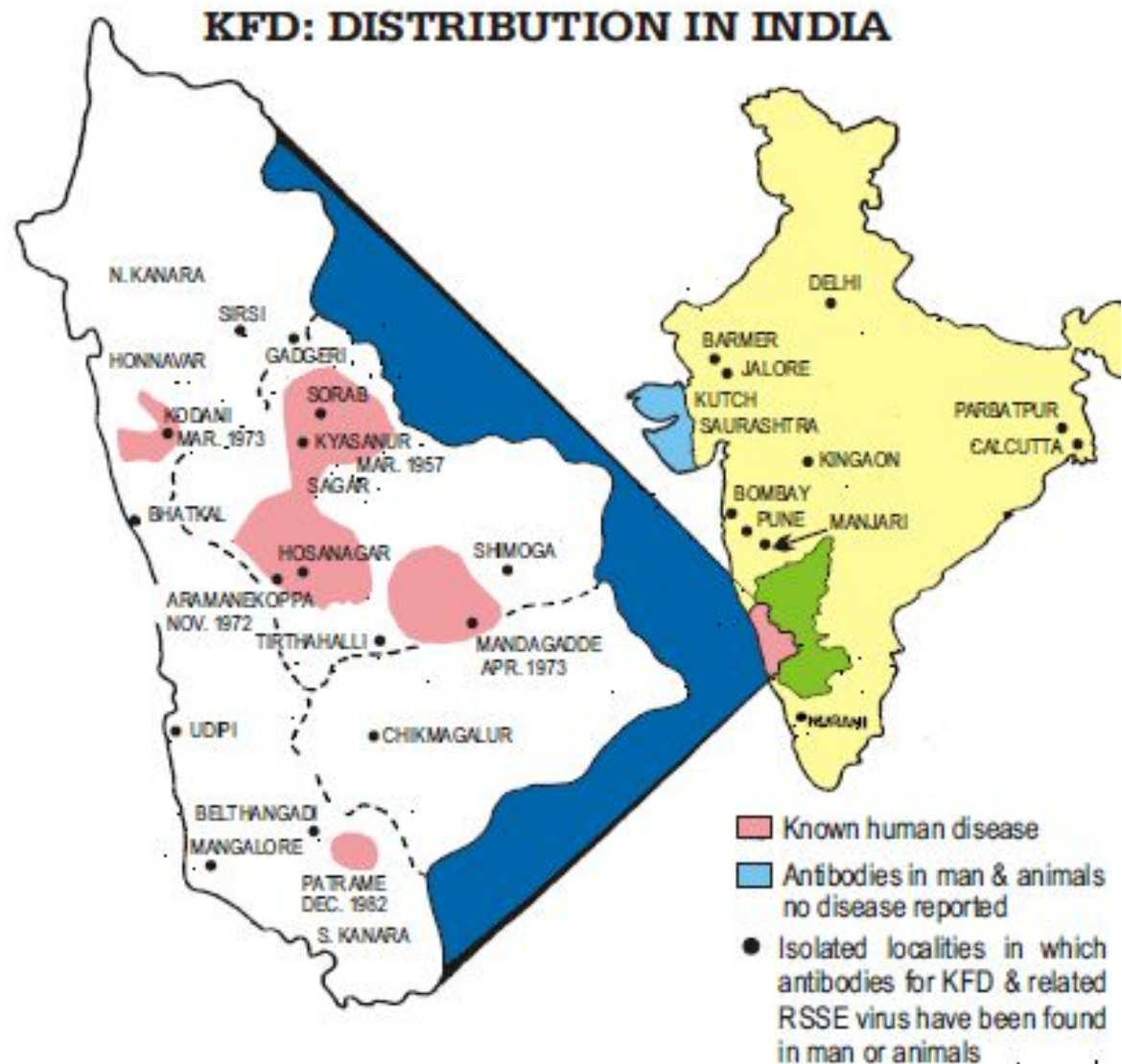
- **KFD** is a tick-borne viral haemorrhagic fever endemic (constant presence of disease) in Karnataka State, India. It is also referred as monkey fever by local people.
- The virus causing the disease: KFD virus (KFDV) is a member of the genus Flavivirus and family Flaviviridae.

# Definition

- KFDV was first identified in 1957, when an illness occurred in monkeys (the black faced langur and the red faced bonnet monkey) in Kyasanur Forest area of Shimoga district, Karnataka State along with febrile illness and few deaths in humans in neighborhood area (Sagar taluk of Shimoga district).

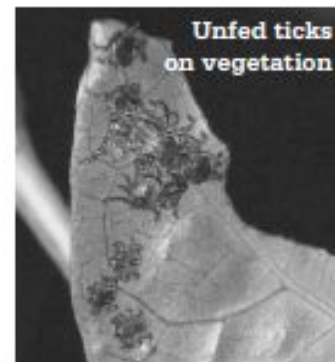
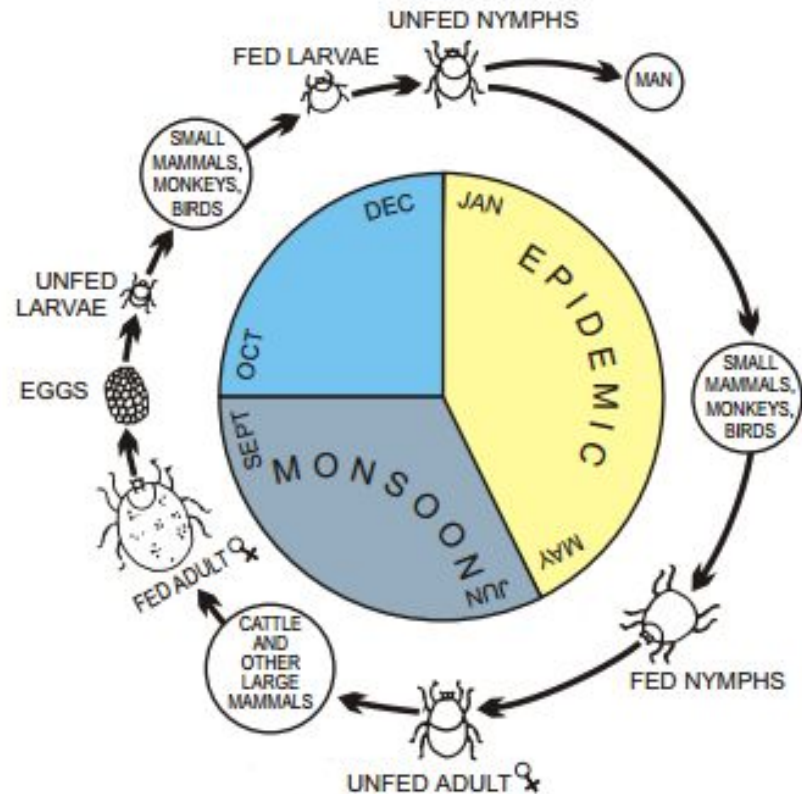
During 2012-2013, disease was reported from new districts and new states in India:

Chamarajanagar district, Karnataka State; Waynad and Malappuram districts, Kerala State and Nilgiri district, Tamilnadu State.



# Epidemiology

KFD virus circulates through small mammals such as rodents, shrews, ground birds and an array of tick species including *Haemaphysalis spinigera*. When monkeys come in contact with the infected ticks, they get infected, amplify and disseminate the infection creating hot spots of infection. The people who pass through the forest are bitten by the infected nymphs of *H. spinigera*, which are highly anthropophilic



# Clinical features

- The onset is sudden with chills, frontal headache and high fever about 40 C.
- The clinical symptoms include continuous fever for 12 days or longer, usually associated with severe myalgia, cough, diarrhea, vomiting and photophobia.
- The incubation period is of 2-7 days.

There is severe myalgia, which is reminiscent of dengue.

Body pains are of high intensity at the nape of the neck, lumbar region and calf muscles.

# Clinical features

- Diarrhoea and vomiting occur by the third or fourth day of illness.
- Bleeding from the nose, gums and intestines begins as early as the third day, but the majority of cases run a full course without any haemorrhagic symptoms.
- Gastrointestinal bleeding is evidenced by haematemesis or fresh blood in the stools.
- Some patients have persistent cough, with blood-tinged sputum and occasionally substantial haemoptysis.

# Clinical features

- Physical examinations during the first few days of illness reveal an acutely ill, febrile patient with a severe degree of prostration. There is usually conjunctival suffusion and photophobia.
- The cervical lymph nodes are usually palpable, as are the axillary epitrochlear lymph nodes in some cases. A very constant feature is the appearance of papulovesicular lesions on the soft palate, but no skin eruption has been noted.



# Clinical features

- The convalescent phase of the disease is prolonged. Often, the disease runs a biphasic course; the second phase occurs after a febrile period of 1 to 2 weeks.
- The fever lasts from 2 to 12 days. It is initiated by headache and by this time abnormalities of the central nervous system are generally present. Neck stiffness, mental disturbance, coarse tremors, giddiness, and abnormality of reflexes are noted

# Diagnosis

- Diagnosis is mainly syndromic.
- Laboratory tests include Hemagglutination inhibition, immunofluorescence and neutralization tests. Neutralization test is most useful for

# Vaccine

NIV has developed an inactivated chick embryo tissue culture vaccine against KFD. This vaccine evokes neutralizing antibodies response in about 70% of the vaccinated persons. The technology has been transferred to the Karnataka Public Health Department for production and vaccination.

# Treatment

- No specific treatment for KFD is available; however, supportive therapy is important. This includes maintenance of hydration and the usual precautions for patients with bleeding disorders.