

# DEPARTMENT OF VETERINARY PUBLIC HEALTH AND EPIDEMIOLOGY

## RABIES



# LEARNING OBJECTIVES

- INTRODUCTION
- SYNONYMS
- ETIOLOGY
- EPIDEMIOLOGY
- PATHOGENESIS
- CLINICAL FORMS IN DOG AND HUMANS
- DIAGNOSIS
- PREVENTION AND CONTROL
- VACCINATION SCHEDULE

# INTRODUCTION

- Rabies is probably one of the best known and deadly zoonotic disease in the world.
- Acute Viral infection in man and other warm blooded animals
- Characterised by sign of abnormal behavior, nervous disturbance, impairment of consciousness, ascending paralysis and death
- Propogated by bite from animal to animal and animal to man
- The virus can live for 4 weeks upto several months in dead animals



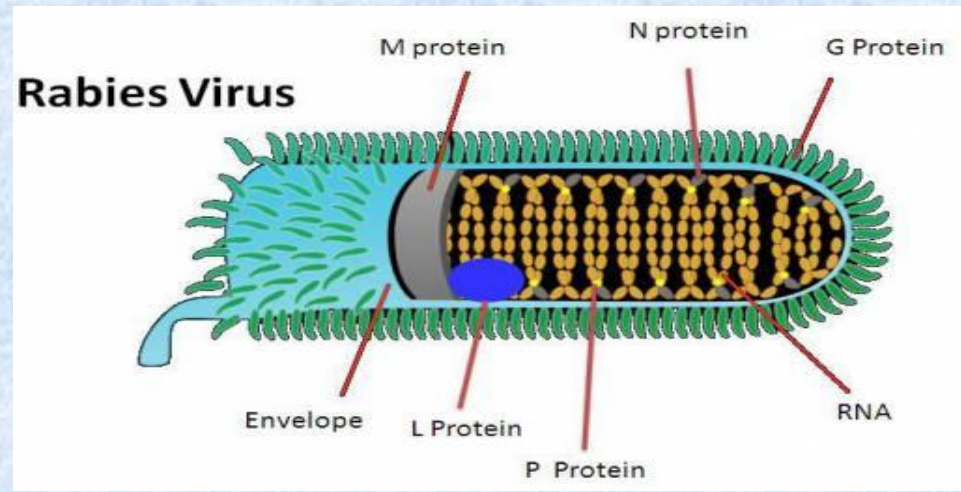
## SYNONYMS

- Hydrophobia
- Lyssa
- Tollwat
- Lerage
- Mad dog
- Madness
- Lytta
- Habhoo
- Rabera
- Jalatanka
- Halakwa



# ETIOLOGY

- CAUSATIVE AGENT – R.N.A. virus
- Belonging to family – Rhabdoviridae
- Genus - Lyssa
- 2 type of virus



FIXED VIRUS	STREET VIRUS
I.P. – 6-7 DAYS	I.P. - 11-47 DAYS
DOES NOT PRODUCE NEGRI BODIES	PRODUCES NEGRI BODIES
SELF LIMITING AND NOT VIRULENT FOR MAN AND USED FOR VACCINE PREPARATION	NOT SELF LIMITING, PATHOGENIC TO ALL WARM BLOODED ANIMALS
ABSENCE OF VIRUS IN THE SALIVARY GLAND AND SALIVA	GOT AFFINITY FOR SALIVARY GLAND

# EPIDEMIOLOGY

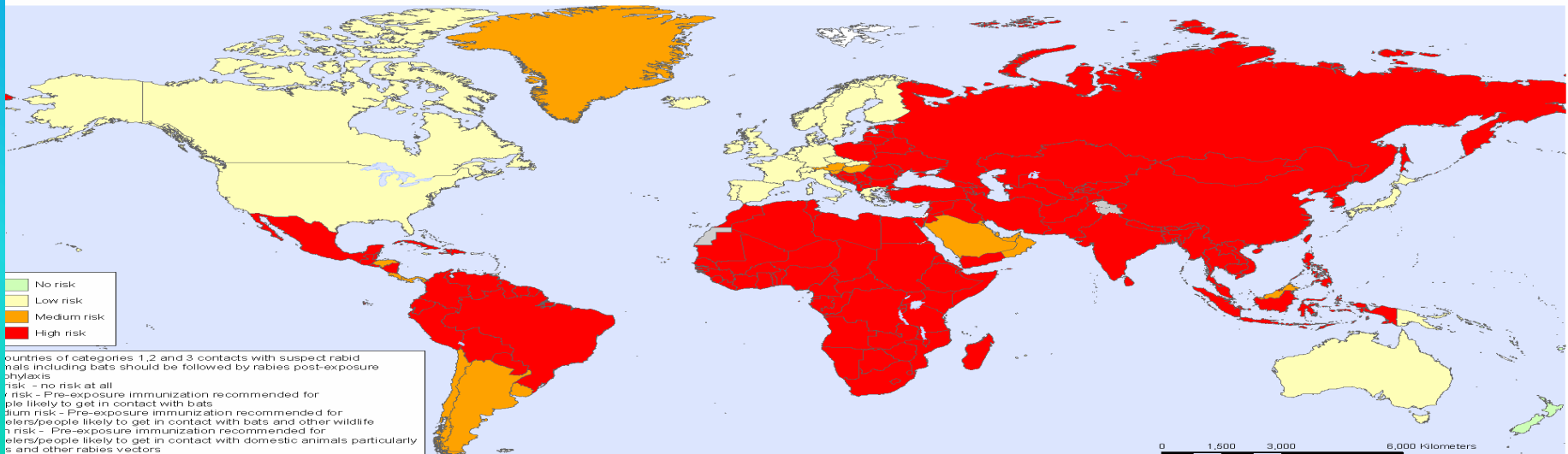
## India carries highest Rabies disease burden

- Estimated 20,000 human rabies deaths per year
- Principal reservoir of the disease is dogs
- No surveillance system of rabies cases – lack of reliable data
- Estimated 27 million dogs – although the number of stray dogs is unknown
- 17.4 million dog bites annually



1. Cliquet 2007; 2. Sudarshan 2007  
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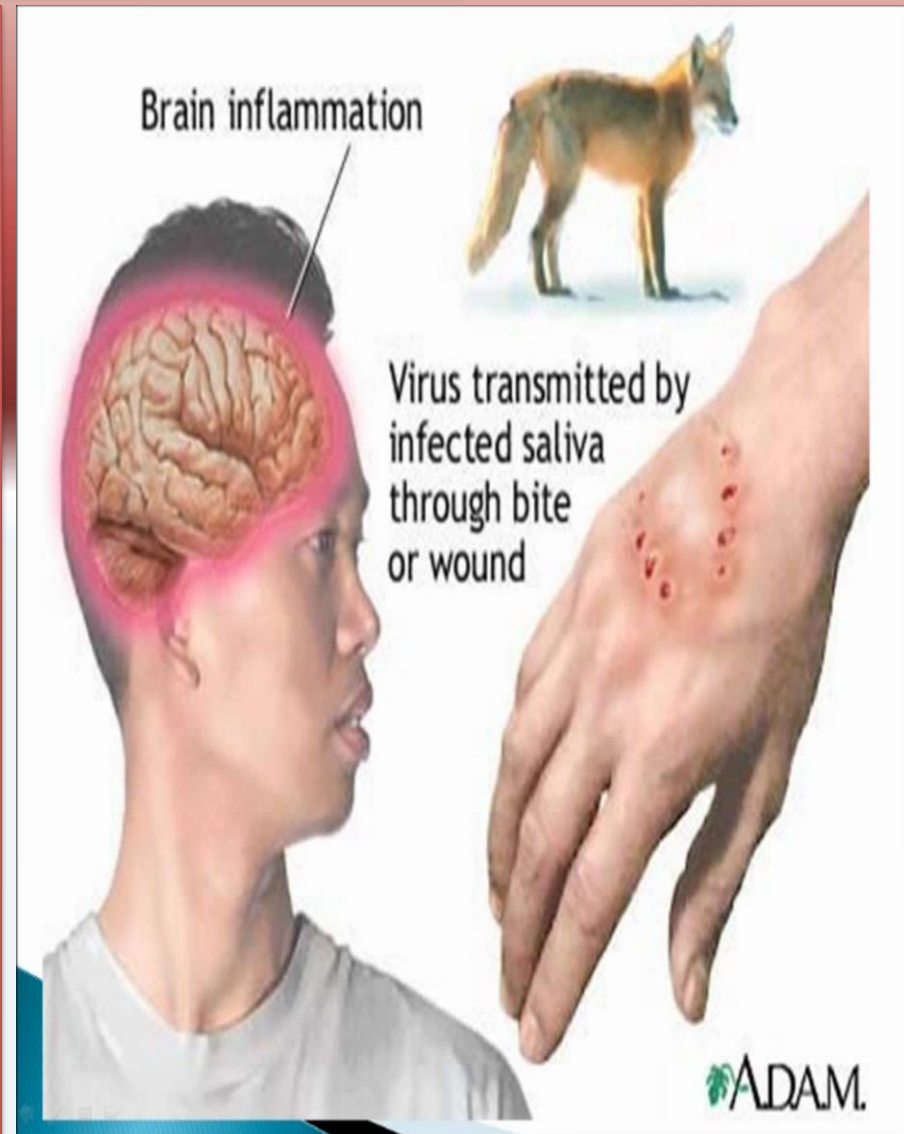
## Rabies, countries or areas at risk



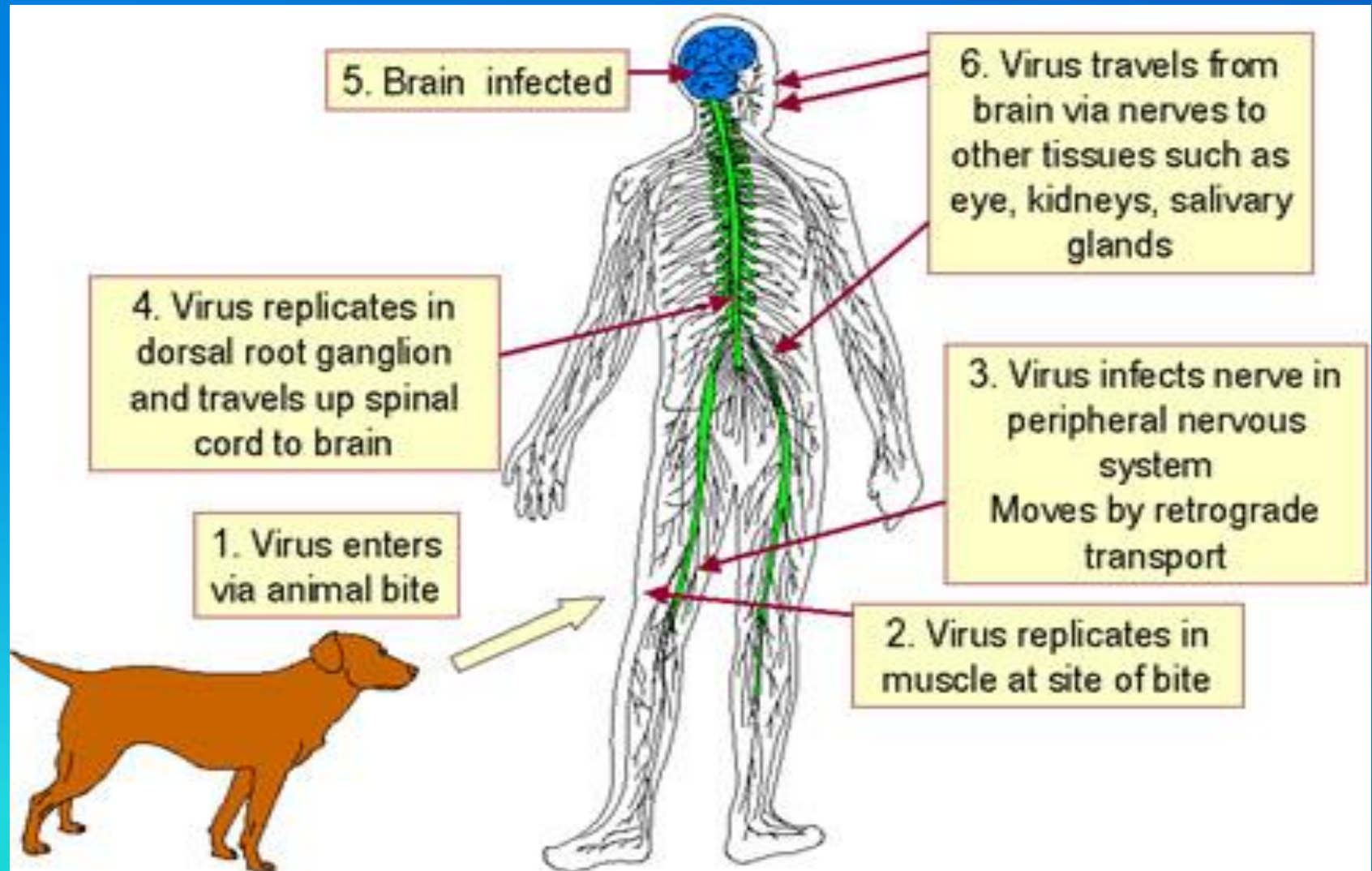
countries of categories 1, 2 and 3 contacts with suspect rabid animals including bats should be followed by rabies post-exposure prophylaxis  
No risk - no risk at all  
Low risk - Pre-exposure immunization recommended for people likely to get in contact with bats  
Medium risk - Pre-exposure immunization recommended for hunters/people likely to get in contact with bats and other wildlife  
High risk - Pre-exposure immunization recommended for hunters/people likely to get in contact with domestic animals particularly dogs and other rabies vectors

## MODE OF TRANSMISSION

- Urban type – transmission takes place through dog bite
- Sylvatic type – transmitted through wild life ex. Fox, Jackal, wolf, Vampire Bat bite
- Organ and tissue transplant



# PATHOGENESIS





# CLINICAL FORMS OF RABIES IN ANIMALS

1. PRODROMAL FORM
2. EXCITATIVE OR FURIOUS FORM
3. PARALYTIC FORM



# CLINICAL SIGNS OF RABIES IN HUMANS



- 1<sup>ST</sup> Sign and symptoms of human rabies is flu like and include malaise, fever, and headache
- Discomfort or tingling at the site of initial exposure
- After some days cerebral dysfunction, anxiety, agitation, Abnormal behavior
- Attempt at drinking cause extremely painful laryngeal spasm of the muscle of deglutination, so that patient refuse to drink
- That's why this disease is known as Hydrophobia
- Loss of fear of man
- Try to attack on inanimate object and moving object like fan
- Try to bite other persons

# RABIES AND PSEUDO - RABIES

RABIES	PSEUDO - RABIES
NO ITCHING	ICTHING PRESENT
PARALYSIS OF LARYNX ABSENT	PARALYSIS OF LARYNX PRESENT
VIRUS FOUND IN SALIVA	ABSENT IN SALIVA
INTRACYTOPLASMIC INCLUSION BODY	INTRANUCLEAR INCLUSION BODY
FOUND IN ALL WARM BLOODED ANIMALS	FOUND IN PIGS ONLY ALSO KNOWN AS "MAD ITCH" CAUSED BY HERPESE VIRUS



## DIAGNOSIS

- Cytological study – detection of Negri bodies in the gasserian ganglion, hippocampus, M.O.

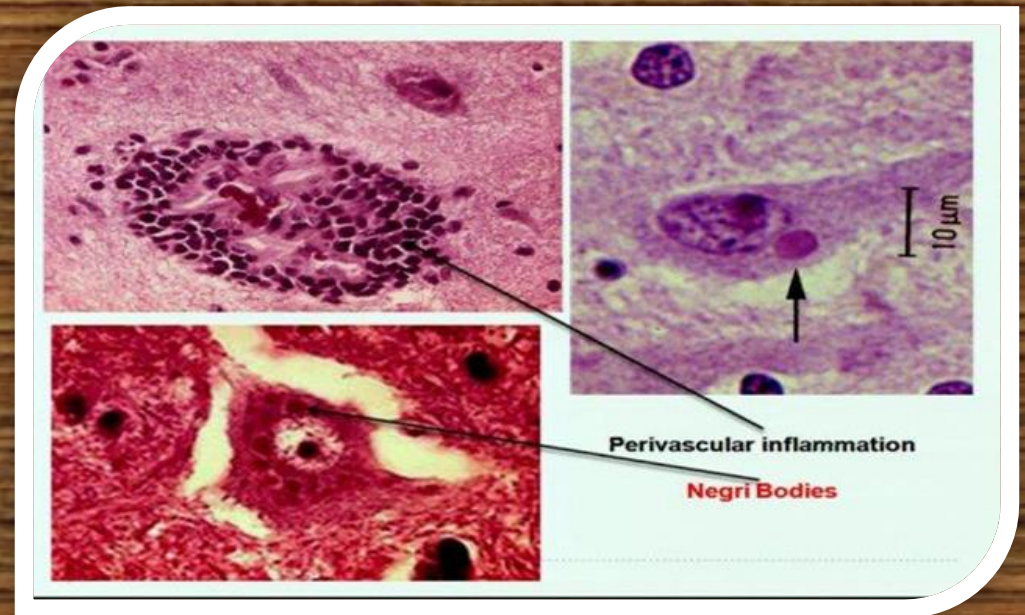
- Mouse inoculation test

- Corneal test or saliva test

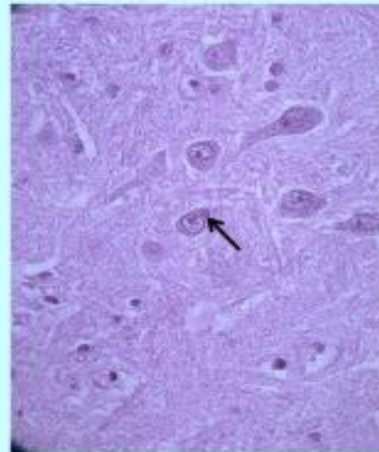
- FAT

- PCR

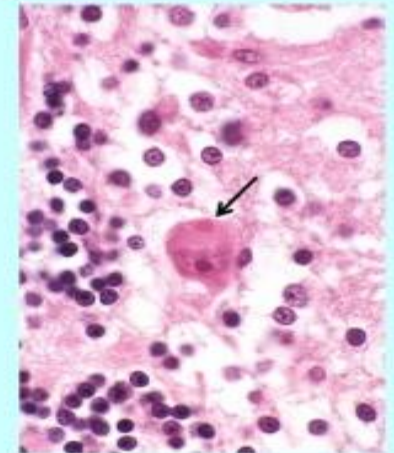
- CFT



## Rabies encephalitis



Hippocampus



Cerebellum

# PREVENTION AND CONTROL

## **RABIES IS 100% FATAL YET EASILY PREVENTABLE**

**Wash the wound  
immediately with  
water & soap**



**Do not ignore animal  
bites or scratches**

**Consult doctor /hospital  
for anti rabies treatment  
without delay**



## **PREVENT RABIES!**

# VACCINATION SCHEDULE FOR ANIMALS & HUMANS



## - PRE-EXPOSURE IN DOGS

VACCINE NAME	AGE OF ANIMAL	BOOSTER	REPEAT	DOSE
Raksha-vac	3 months of age	6 months of age	Annually	1 ml

## - POST-EXPOSURE BOTH IN HUMANS AND DOGS

VACCINE NAME	DOSE	1 <sup>ST</sup> DOSE	2 <sup>ND</sup> DOSE	3 <sup>RD</sup> DOSE
Raksha-vac	1 ml	0 day	7 <sup>th</sup> day	21 <sup>st</sup> day

THANK  
YOU

The image features the words "THANK YOU" in a bold, 3D, light green font with black outlines. The letters are arranged in two rows: "THANK" on top and "YOU" on the bottom. A cartoonish, tan-colored face with a wide, open-mouthed smile and a red tongue is integrated into the letter "O" of "YOU". The face has simple black lines for eyes and eyebrows, and a thick black outline. The entire graphic is set against a plain white background.