



# SNS COLLEGE OF NURSING

Saravanampatti (po), coimbatore.



DEPARTMENT OF NURSING  
COURSE NAME : Bsc (Nursing) II Year.  
SUBJECT : COMMUNITY HEALTH NURSING  
UNIT : III  
TOPIC : RABIES

# RABIES



# RABIES





# OBJECTIVES



At the end of this class the students will be able to

- Define Rabies
- State the causative agent of Rabies
- Describe the mode of transmission of Rabies
- Mention the incubation period of Rabies
- Discuss the epidemiological triad of Rabies
- Briefly explain the pathophysiology of Rabies



# INTRODUCTION



- ❖ Rabies is an infectious viral disease that is almost always fatal following the onset of clinical symptoms
- ❖ Upto 99% of cases ,domestic dogs are responsible for rabies virus transmission to humans
- ❖ Rabies is one of the neglected tropical disease that predominantly affects poor and vulnerable populations who live in remote rural locations



# EPIDEMIOLOGY



- ✓ Rabies is distributed on all continents (with the exception of Antarctica)
- ✓ Occurs in more than 150 countries and territories
- ✓ Globally more than 55,000 people die of rabies every year
- ✓ Every year more than 15 million people worldwide receive a post exposure preventive regimen which is estimated to prevent 3,27,000 cases annually

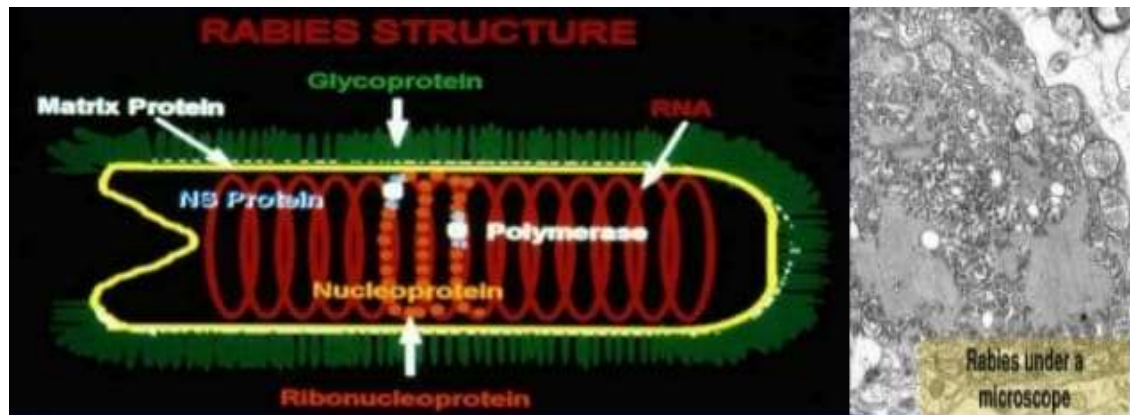


# DEFINITION

- Rabies is an acute, progressive encephalomyelitis or highly fatal viral disease.
- It is an epizootic disorder. The case of fatality rate is the highest of any infectious disease

# CAUSATIVE AGENT

- RNA viruses belongs to the family Rhabdoviridae genus Lyssavirus.
- It is a bullet shaped neutropic RNA containing virus.





# MODE OF TRANSMISSION



MAN-MAN

AEROSOL

LICKS

ANIMAL BITES



# INCUBATION PERIOD

It is highly variable in man, commonly 3-8 weeks following exposure.

- ❑ The closer the bite to the brain , the shorter the incubation
- ❑ Rabies virus travels 1 cm per day



# EPIDEMIOLOGICAL TRIAD





# AGENT FACTOR



- ❑ Elyssa virus type I of family Rhabdoviridae
- ❑ The virus is excreted through saliva of the affected animals. Saliva of the rabid animal is the source of infection.
- ❑ Rabies occurs in three epidemiological forms such as urban, wild life and Bat rabies.
- ❑ One rabid dog is capable of biting a large number of humans and animals.



# HOST FACTOR



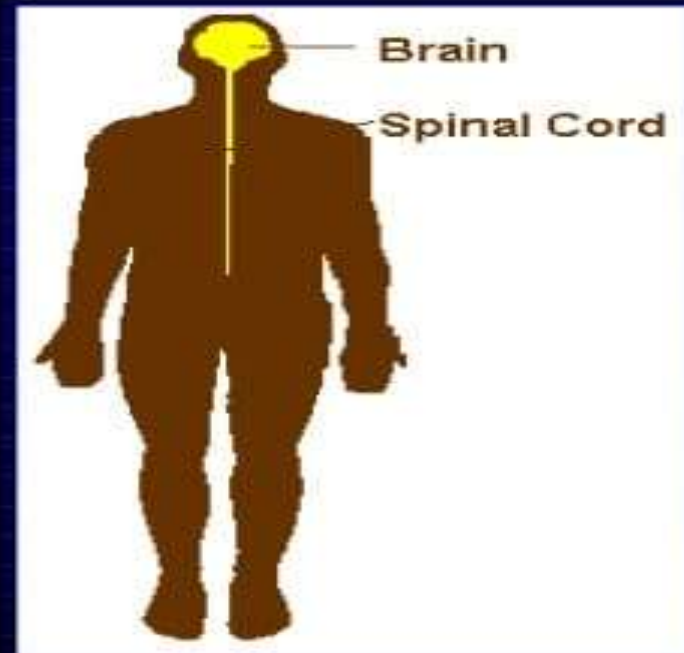
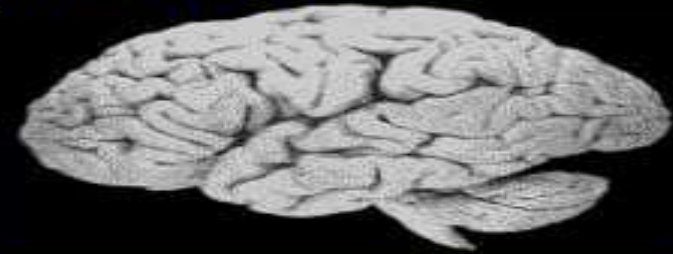
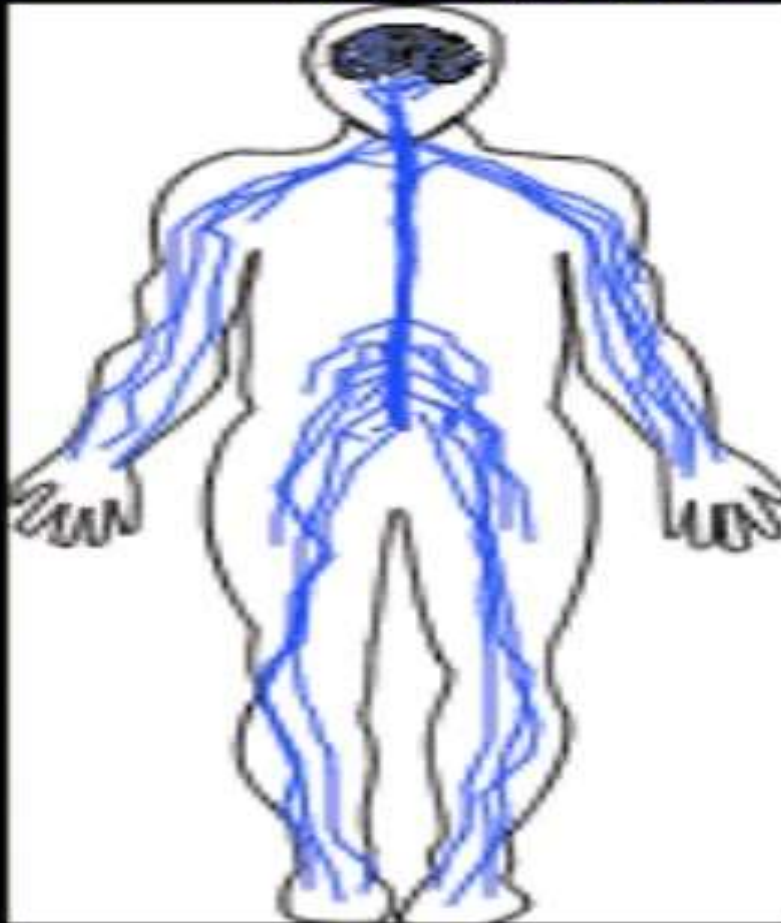
- Warm blooded mammals including man is at high risk for rabies
- Hunters
- Veterinarians
- Laboratory staff working with rabies virus



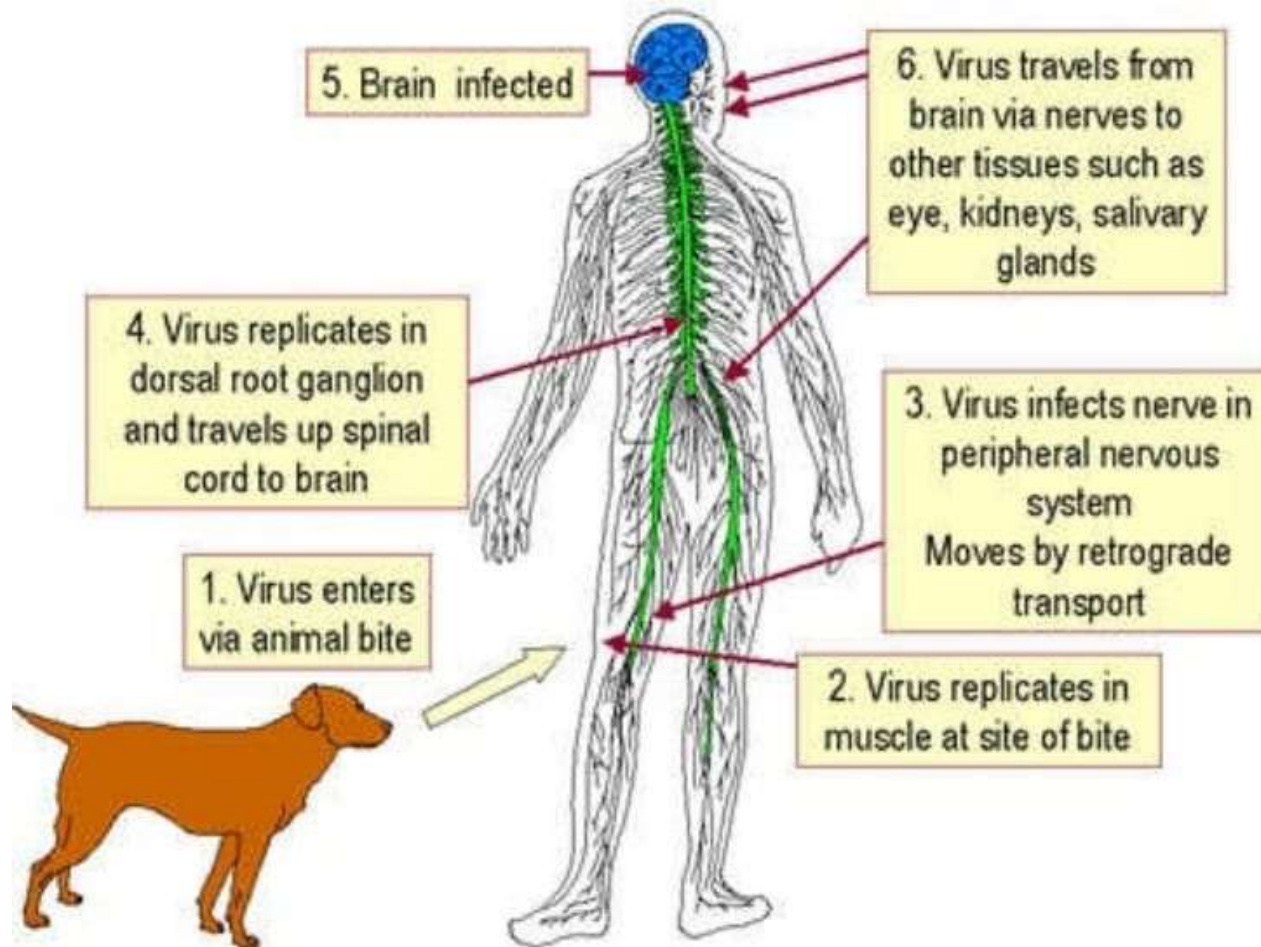
# ENVIRONMENTAL FACTOR

- Rabid dogs and cats Which have the rabies virus in saliva
  
- Vampire bat
  
- Jackal, fox, hyena are the wild life carriers which are main reservoir and transmitter of rabies.

## PATHOGENESIS



# Continued...





# SIGNS AND SYMPTOMS



- **Mainly neurologic:**

## Early signs ( non specific )

- Fever
- Headache
- Weakness
- Achy muscles





# Late signs



- Inco - ordination
- Confusion
- Strange behavior
- Attacking and biting moving at stationary objects
- Salivation
- Hydrophobia
- Photophobia
- Aerophobia
- Paralysis
- Seizures



# SIGNS AND SYMPTOMS



- **Mainly neurologic:**

## Early signs ( non specific )

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# DIAGNOSTIC EVALUATION



1. History collection (Bite by a rabid animal)
2. Clinical signs and symptoms especially Hydrophobia
3. Antigen detection of using immuno-fluorescence of skin biopsy
4. Isolation of virus from saliva





# TREATMENT AND PREVENTION



- 1.Pre exposure prophylaxis
- 2.Post exposure prophylaxis



# PRE EXPOSURE PROPHYLAXIS



- ✓ Provided to subject at risk before occupational or vocational exposure of rabies.
- ✓ Subjects includes diagnosticians, laboratory & vaccine workers, veterinarians, cavers and etc.
- ✓ Simplifies post exposure management only vaccines used.





# POST EXPOSURE PROPHYLAXIS (PEP)

Provided to subjects after rabies exposure consist of wound care, rabies immunoglobulin and vaccine.

- Cleansing
- Chemical treatment
- Suturing
- Anti-Rabies serum
- Antibiotics and anti tetanus measures
- Observe the animal for 10days



# Conti...

- Wash lesions well with soap and water
- Infiltrate rabies immunoglobulins (20 iu/kg) in to and around the margin of the bites.
- Administer vaccine on days.0,3,7,14and 28.





# RABIES VACCINE

1. Nervous tissue vaccine (NTV)

2. Duck embryo vaccine (DEC)

Purified Chick Embryo cell (PCEC)

3. Cell-culture vaccine (HDC)

Human Diploid Cell Vaccine (HDCV)





# VACCINE ADMINISTRATION



Class of treatment	ADULT	CHILDREN	Duration of Treatment
Class I	2ml	1ml	7days
Class II	3ml	3ml	10days
Class III	5ml	3ml	10days

(Dosage schedule by Pasture institute, Coonoor)

CLASS –I (Slight risk)

CLASS—II (Moderate risk)

CLASS– III (Severe risk)

# Vaccine Administration

## 1. Intramuscular Schedules

- ✓ 6 doses schedule
- ✓ Reduced multisite intramuscular regimen (2-1-1)

## 2. Intradermal Schedules

- 2-Site Intradermal schedule(2-2-2-0-1-1)
- 8-Site intradermal schedule(8-0-4-0-1-1)

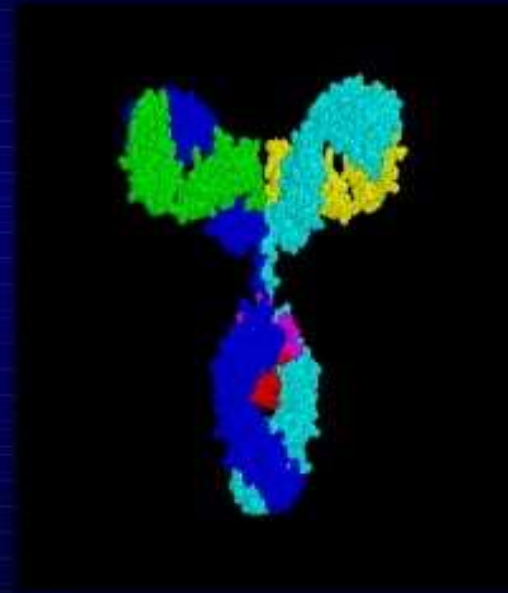


# RABIES IMMUNOGLOBULIN

## RABIES IMMUNOGLOBULIN

**ONLY IN HEP**

- Two Human Rabies Immunoglobulins are available;  
HyperRab™ S/D  
Imogam® Rabies-HT
- Both supplied in vials at ~ 150 IU/ml





# CASE MANAGEMENT



- ✓ The patient should be isolated in a quiet room, i.e. protected from external stimuli
- ✓ Relieve from anxiety and pain by the use of sedatives
- ✓ Morphine in doses of 30-45 mg may be given repeatedly.
- ✓ Ensure hydration and diuresis
- ✓ Respiratory and cardiac output



# NURSING RESPONSIBILITY



- Nursing personnel should be warned against possible risk of contamination.
- They should wear mask ,gloves, goggles and apron to protect themselves.
- Nurses having bruises, cuts or open wound should not be entrusted to look after the patient.
- Pre exposure prophylaxis with 2-3 doses of HDC vaccine is recommended.



# ASSESSMENT

- **SHORTANSWERS**
- Define Rabies
- Enumerate the signs and symptoms of Rabies
- Draw the epidemiological triad of Rabies
- List down the vaccines of Rabies
- Write Nursing responsibilities of Rabies
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- **ESSAY**
- Write the preventive measures of Rabies



# SUMMARY

In this section we have discussed on Definition, Causative agent, Mode of transmission, Incubation period, Epidemiological triad, Pathophysiology, Signs and symptoms, Diagnostic evaluation, Treatment and Preventive measures and Nursing responsibilities of rabies.



# BIBLIOGRAPHY

- K.Park “Park’s Text book of Preventive and Social Medicine”, 20 th Edition, M/s Banarsidas Bhanot publishers, 2009, P.No 249 – 251.
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