

بسم الله الرحمن الرحيم



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Rabies

By

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■ **Definition:**

It is an acute infectious fatal viral disease of the CNS caused by rabies virus.

■ **Cause:**

- Caused by one of the rhabdoviridae viruses.
- The virus is inactivated by sunlight, heat at 60 c for 30 minutes and ether.
- It can be grown in chick and duck embryos and in tissue cultures.

■ **There are two types of the virus:**

- Street virus ---- it's the virulent form found in rabid animals in nature .
- Fixed virus ---- It is the modified street virus by repeated intracerebral passage in rabbits

■ **Mode of transmission:**

- Usually a bite of rabid animal.
- The virus is found in Saliva, CNS, CSF, peripheral nerves, urine and stools of infected subjects. Tears can carry the virus, so corneal grafts can transmit infection. (body fluids and excreta of infected animals and humans).
- Animal bite, scratches or licks is the most common.
- It can be transmitted from person to person.

■ **Clinical forms:**

- The central nervous system may be affected unevenly and this may explain the different clinical manifestations of the disease.

1-Furious form:

- Characterized by hydrophobia and aggressive behaviour. The higher centers of the brain as (brain stem, limbic system and cranial nerves) are affected.

2-Dumb or paralytic form:

- Has a quieter form. The medulla oblongata, spinal cord and spinal nerves are affected.

Intracytoplasmic inclusion bodies (Negri bodies) are pathognomonic for rabies encephalitis.

Clinical picture:

- It depends up on the extent and location of the neurological damage of CNS.
- I.P = 2 – 8 weeks rarely months.

1-Hydrophobia, airophobia : .

-Development of great fear and laryngeal spasm when the patient is given a glass of water or exposed to air respectively. Inspiratory muscle spasm may occur which may end in generalized convulsions.

2-Anxiety is characterized by fear of everything.

3-Dumb is inability to speak due to pharyngeal paralysis.

4-Aggressiveness.

5-Flaccid paralysis is terminal.

- Other signs as meningism, cranial nerve lesions (III, VII, VIII), UMN, muscle fasciculations, Involuntary movements, high fever and fluctuating B.P.
- Mental clarity is preserved till the end.

■ **Diagnosis:**

- History of animal bite (dog, cat).
- C/P
- Laboratory.
 - Isolation of virus from saliva, or brain tissue at autopsy.
 - Detection of antibodies in the serum of patient.
 - Negri bodies in brain at autopsy.

■ Treatment:

- The disease is fatal. After the bite the following measures should be done:
- Prophylactic antitetanic serum (1500 units) is injected once IM.
- Cleaning of the wound with soap and running water, then running water only to remove traces of soap. Do not suture the wound.
- Antirabies hyperImmune serum:
(human type 20 units/Kg) or (equine type 40 units/kg) once as follows: $\frac{1}{3}$ subcutaneously around the wound & $\frac{2}{3}$ superficially IM

-**Vaccine** is given in the same sitting.

1-Semple vaccine:

- 2ml daily S.C in the abdominal wall for 3 weeks.
- Less expensive.
- Post vaccinal myelitis is a serious complication.

2- Human diploid cell vaccine:

- 1 ml on day 0,3,7,14, and 28 IM injections.
- More expensive.
- No serious complication.

-Observation of the animal for 10 days:

- If the animal is still alive ---- stop therapy
- If the animal is killed ---- examine the Brain for Negri bodies.
- If the animal is unknown ---- continue therapy.



Thanks

2024