



Epidemiology Of Rabies



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Zoonotic Fatal acute viral encephalopathy of warm blooded animals (carnivorous)
Progress into hydrophobia, convulsions, respiratory paralysis & death (2-6) days.
50000 deaths/yr, mostly in developing countries. 40% < 15yrs Only communicable disease in man that is always fatal.



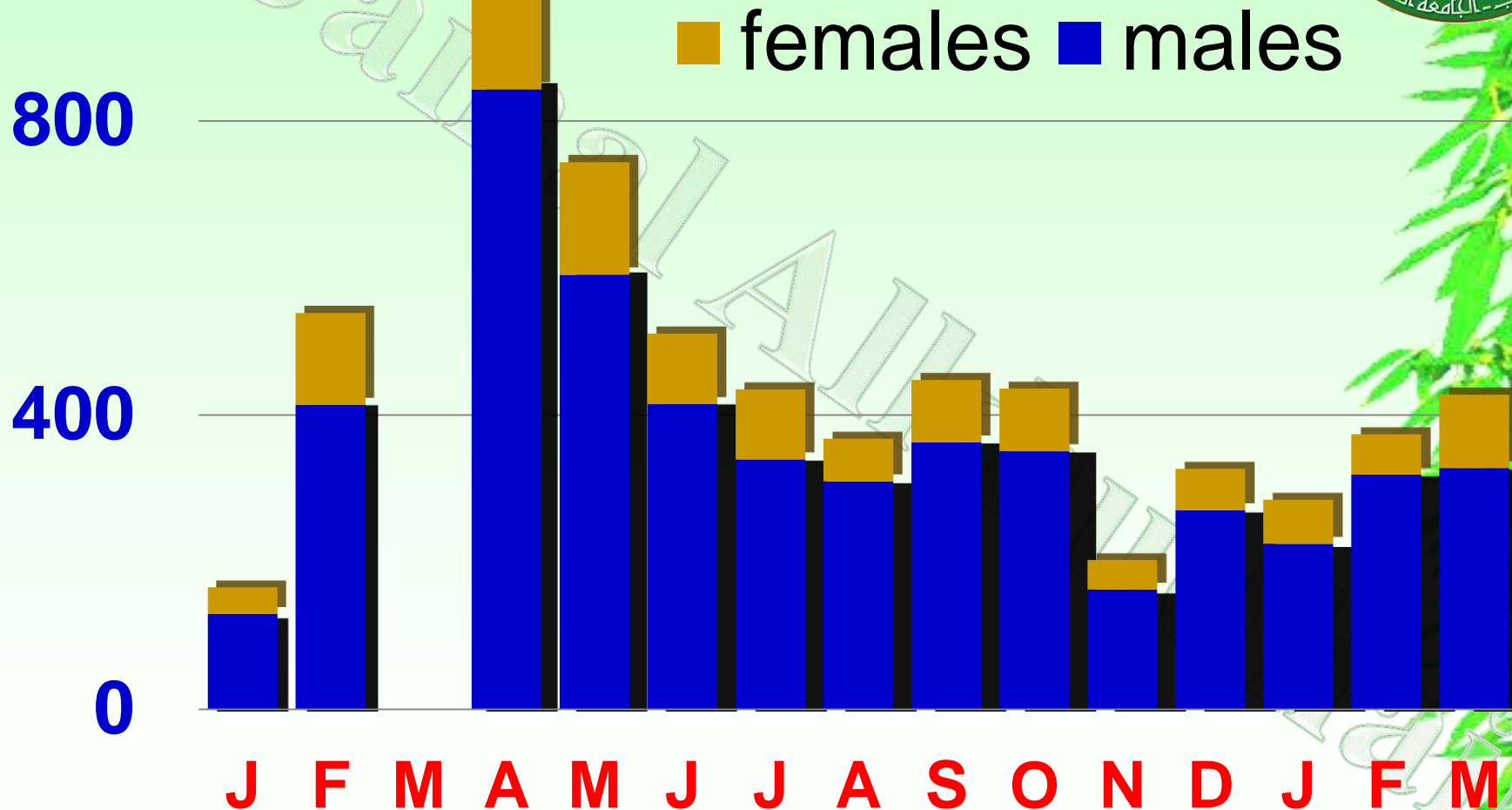
Rabies free areas: Islands as UK, Ireland, Cyprus, Japan, Australia, new Zealand.

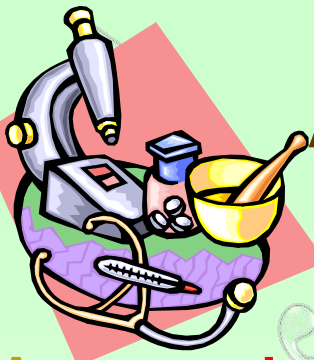
- **Urban type** transmitted by dogs
- **Sylvatic type** transmitted by wild animals & bats.



Immunoglobulin doses

Pasteur Inst – Baghdad 2011-2012





Animal Diagnosis



Agent: **Lyssavirus** bullet shape RNA virus.

Host: warm blooded animals & man.

Diagnosis by killing or testing the dead animal:

- FA staining of brain or infected tissue
- Microscopic exam of brain for Negri bodies.
- Mouse inoculation test.
- Virus isolation & serology on tissue culture

Diagnosis in man by clinical & post mortem is too late!

Dr



Rabies virus

rhudhaidiri



Reservoir

- **Dogs:** in developing countries
- **Wild canines:** (Enzootic): fox, wolf
- **Bats:** America & Europe



Source of infection

Saliva of rabid animals

Modes of transmission

- Animal Bite or scratch: dog, fox
- Licks on abraded skin.
- Organ transplant: cornea
- Airborne: bat caves, lab workers.
- Man to Man? Dead end infection



Incubation period



Only communicable disease with variable and multi factor dependant:

2-12 weeks.

Depends on:

- Biting animal species
- wound: severity, site, distance from head.
- Protection by clothing
- Treatment undertaken

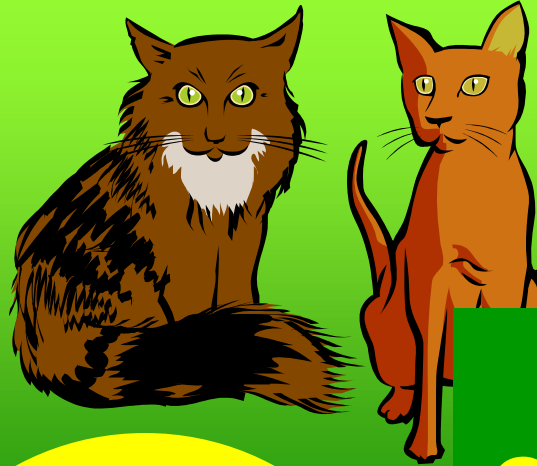
Epidemiologic types



BAT



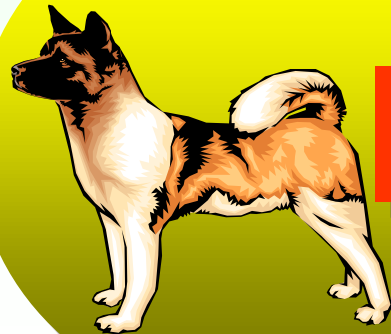
**SYLVATIC
TYPES**



**WILD
CANINES**

DOG

URBAN TYPE



Active immunization

Inactivated vaccines

(small risk of encephalitis, allergy)



1. Human diploid cells (IM or ID)
2. Purified chick embryo cells (IM)

Pre-exposure vaccination:

- three doses: days 0-7-28.
- boosters: every two years

Post-exposure vaccination:

- non immunized: 5 doses: days 0-3-7-28-35
- previously immunized: 2 doses: days 0-3

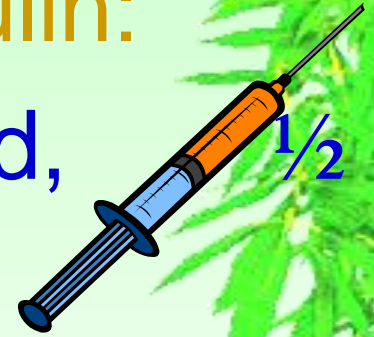




Passive immunization

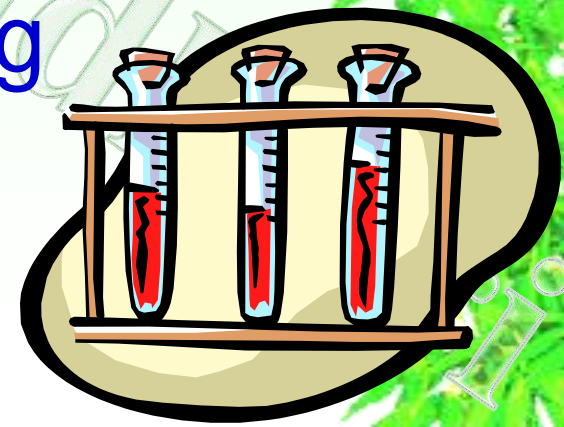
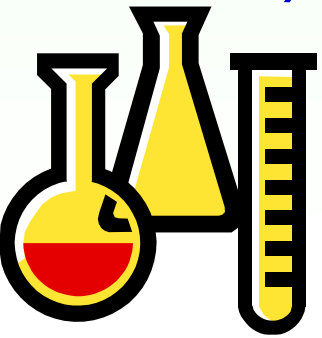
Two types of Rabies immunoglobulin:

$\frac{1}{2}$ dose is infiltrated into the wound,
given IM.



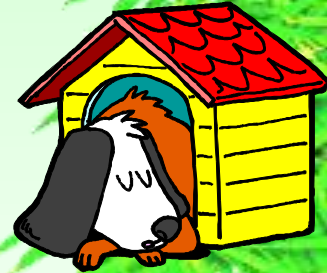
Human type: (best type): give 20 IU/Kg

Equine type: start with a test dose (ID or SC) for allergy, then 40 IU/Kg



Prevention

- License & Immunize dogs
- Euthanize stray dogs
- Dog population control (using infertility)
- Active surveillance for epizootics
- Oral immunization for wild animals:
using air-drop bait recombinant vaccine
- **Pre-exposure vaccination** for high risk people: lab workers, veterinarians, zoo personnel, hunters



Post-exposure prophylaxis



Done after animal bite, depending on:

- Animal nature: wild
- Condition of bite: unprovoked bite
- Rabies surveillance: enzootic or epizootic in area
- Animal condition: diseased/dies within 10d.

Steps of Post-exposure prophylaxis :

1. Wound management: cleaning, flushing with water, not suture, antibiotics.
2. Post-exposure vaccination: IM in (only vaccine given after infection)
3. Passive immunization: given as soon as possible, except if previously immunized.



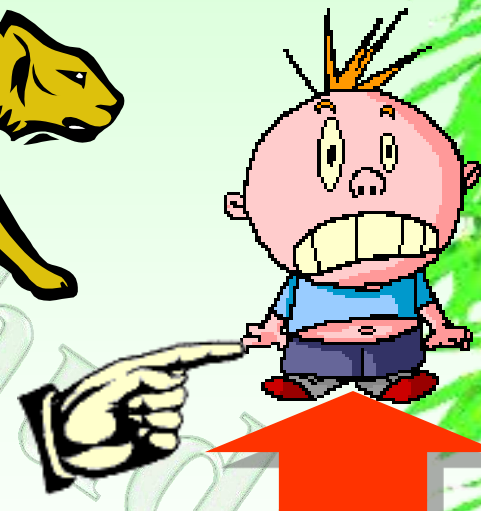
Dr Jamal Alkali

Dog bites



Alkali

Post-exposure prophylaxis



- Wild bite
- Rabies in area
- Unprovoked bite
- Dead or infected animal

Post-exposure prophylaxis





Thank You