

Session Summary for 29 May, 2018

Didactic: Rabies, John Lynch, MD.

* Rabies:
  + RNA virus in the Rhabdoviradae family.
  + Transmitted by contact with saliva, not blood, feces, or urine.
  + Rare cases of human to human transmission in transplanted organs.
  + Pathophysiology:
    - Animal bitten by a rabid animal and the virus enters the infected wound from infected saliva. Rabies virus travels through nerves to the spinal cord and this period takes 3-12 weeks (incubation period). When the virus reaches the brain, symptoms begin and death usually occurs within 7 days of symptoms onset.
* 92% of all rabies cases in the US are diagnosed in animals, with 7.6% in domestic animals.
* 2-3 humans/year in the US die of rabies and we spend ~$300 million per year on prevention.
* Globally 90% of rabies is in dogs and 99% of human deaths are due to dog bite exposures.
* Post-exposure prophylaxis:
  + Rabies Immune Globulin (RIG) on day 0
    - 20 IU/kg body weight. Administer as much as possible at the bite site.
  + Vaccine: administer in the deltoid on the side contralateral to the RIG injection site. Never inject in the gluteal or on the same side as RIG was administered. Give on days 0, 3, 7, 14.
* In Washington State, rabies is found in bats almost exclusively! No cases of dog rabies in Washington state.
* **ALWAYS CALL THE PUBLIC HEALTH DEPARTMENT WHEN EVALUATING AND TREATING A POSSIBLE RABIES EXPOSURE. This is required by law and very helpful.**
* PEP Dos and Don’ts:
  + DO:
    - Inject RIG into area of exposure.
    - Inject RIG and vaccine into different areas on opposite sides of the body.
    - Delay wound closure to ensure RIG injection into wound first.
    - Measure Rabies antibody response in immunocompromised patients including those on chronic steroids.
  + DON’T:
    - **Inject reaming RIG for IM with same needle was used to inject into the wound.**
    - Don’t give additional RIG >7d after the vaccine as it can suppress immune response to the vaccine.
    - Don’t inject vaccine into the glute, only inject into the thigh.

References:

Gautret, P. *et al.* Rabies in nonhuman primates and potential for transmission to humans: a literature review and examination of selected French national data. *PLoS Negl. Trop. Dis.* **8,** e2863 (2014).

Kessels, J. A. *et al.* Pre-exposure rabies prophylaxis: a systematic review. *Bull. World Health Organ.* **95,** 210–219C (2017).

CDC Rabies Medical Care: https://www.cdc.gov/rabies/medical\_care/index.html