RABIESWATCH

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Tragic Consequences of Delayed or Inadequate Postexposure Prophylaxis

It is always important to understand and follow the Centers for Disease Control and Prevention (CDC) guidelines for postexposure prophylaxis (PEP). But recognizing a rabies virus exposure in a person infected by an animal and then intervening in a timely way can be challenging. Recent cases in the US and beyond highlight that tragedies occur when rabies virus exposures are not recognized as urgent medical situations and then handled quickly and comprehensively by laypersons and healthcare professionals.

"Today, as in the past, a diagnosis of a rabies case is, in a statistical sense (>99.9%), synonymous with fatality. There is no proven treatment once clinical signs appear."[1]

Philippines (March 2017)

A 7-year-old boy died of rabies 2 weeks after a dog bite on the head and after receiving 3 doses of a rabies vaccine only. According to the dog's owner, the dog had not been vaccinated against rabies "in a long time."[2]

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Puerto Rico (December 2015)

A 54-year-old man died of rabies less than 2 months after being bitten by a mongoose. This man did not seek medical attention until presenting at an emergency department with fever, difficulty swallowing, hand paresthesia, cough, and chest tightness following a 5-day course of refusing most food and drink. Rabies was not suspected until symptoms worsened and shortly before the patient died; rabies infection was confirmed on autopsy.[3]

Please see Important Safety Information at the end of this article and full Prescribing Information for HyperRAB® S/D (rabies immune globulin [human]).

Wyoming (October 2015)

A 77-year-old woman died of rabies less than 2 months after contact with a bat in her home. Her husband examined her for bite wounds at that time but found none; with gloved hands, he captured the bat and released it outside without having it evaluated for rabies. The patient did not seek medical attention until hospitalization, 1 month after the exposure incident, for progressive weakness and ataxia following a fall. After more than a week of hospitalization and deterioration of her medical status, which included progressive encephalitis with dysphagia, confusion, dyspnea with endotracheal intubation for worsening respiratory failure, near complete quadriplegia, spontaneous myoclonus, and coma, she was evaluated for rabies on the basis of family members who recalled the bat exposure. She died 3 days later.[4]

Missouri (September 2014)

A 52-year-old man with known bat exposure but no known bite wounds died from rabies 2 weeks after he first visited an emergency department for medical attention. His initial complaint of acute onset severe neck pain was diagnosed as cervical muscle strain and radiculopathy and was treated accordingly. As his condition deteriorated over the next several days, the development of rigidity and action tremors in his upper extremities led to his transfer to a tertiary care hospital for neurologic evaluation. The possibility of rabies was considered after 11 days of extensive evaluation for the most common etiologies of encephalitis. During this time, his acute illness progressed rapidly. Rabies virus was confirmed in a skin biopsy and saliva 2 days before his family elected to withdraw life support.[5]

Maryland (February 2013)

A 49-year-old man died of rabies less than 1 month after first seeking medical attention for right hip pain at an emergency department. Given a diagnosis of sciatica and discharged, the patient returned 4 days later with complaints of fever, nausea, and lower extremity weakness. This patient had no known animal exposures but had received a deceased-donor kidney transplant 17 months before his symptoms began. Subsequent investigation revealed that the kidney donor's listed cause of death was severe gastroenteritis, which was attributed to consumption of raw fish. Therefore, this donor was considered eligible for organ donation. Rabies virus isolated from banked samples from that donor were more than 99.9% identical to the rabies virus from the kidney recipient who died of rabies.[6]

These cases highlight that rabies fatalities continue to occur. They also underscore the urgent need for immediate medical attention after an potential exposure, comprehensive clinical evaluation of rabies risk, and appropriate access to PEP with a human rabies immune globulin (HRIG), such as HyperRAB® S/D (rabies immune globulin [human]), in conjunction with rabies

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vaccine.[7] Incomplete PEP regimens that include only rabies vaccine to elicit an active immune response, without passive antibodies from HRIG, can put at risk people who either have not previously received a complete vaccination regimen with a cell culture vaccine or who have not been previously vaccinated with other types of rabies vaccines and do not have a documented neutralizing antibody titer directed against the rabies virus.[7] After administration of a rabies vaccine, a patient's immune system may take days or weeks to respond adequately and establish active immunity.[8] For this reason, ACIP guidelines and WHO guidelines specify timely intervention to address the immediate and longer-term risks following potential rabies virus exposures.[7,9]

IMPORTANT SAFETY INFORMATION

Rabies vaccine and HyperRAB® S/D (rabies immune globulin [human]) should be given to all persons suspected of exposure to rabies with one exception: persons who have been previously immunized with rabies vaccine and have a confirmed adequate rabies antibody titer should receive only vaccine. HyperRAB S/D should be administered as promptly as possible after exposure, but can be administered up to the eighth day after the first dose of vaccine is given.

HyperRAB S/D should be given with caution to patients with a history of prior systemic allergic reactions following the administration of human immunoglobulin preparations.

The attending physician who wishes to administer HyperRAB S/D to persons with isolated immunoglobulin A (IgA) deficiency must weigh the benefits of immunization against the potential risks of hypersensitivity reactions. Such persons have increased potential for developing antibodies to IgA and could have anaphylactic reactions to subsequent administration of blood products that contain IgA.

As with all preparations administered by the intramuscular route, bleeding complications may be encountered in patients with thrombocytopenia or other bleeding disorders.

Soreness at the site of injection and mild temperature elevations may be observed at times. Sensitization to repeated injections has occurred occasionally in immunoglobulin-deficient patients. Angioneurotic edema, skin rash, nephrotic syndrome, and anaphylactic shock have rarely been reported after intramuscular injection so that a causal relationship between immunoglobulin and these reactions is not clear.

Administration of live virus vaccines (e.g., MMR) should be deferred for approximately 3 months after rabies immune globulin (human) administration.

HyperRAB S/D is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses, and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent that can cause disease. There is also the possibility that unknown infectious agents may be present in such products.

Please see full Prescribing Information for HyperRAB S/D.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

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