

# First case of rabies in over a decade: Lessons for healthcare personnel

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A team of French clinicians has diagnosed the first case of rabies in that country since 2003. Only 20 cases of human rabies had been diagnosed in France between 1970 and 2003. Moreover, the patient was unaware of having been bitten. So it is not surprising that that diagnosis was not suggested until day 12 post admission to the intensive care unit. The case report appeared April 8 in the *Journal of Clinical Microbiology*, a publication of the American Society for Microbiology.

"Rabies is nowadays extremely rare in the developed world," said Christian Brun-Buisson, head of the medical [intensive care unit](#), and director of the Infection Control Unit, Assistance Publique Hopitaux de Paris, France. "This case had an even more disturbing clinical presentation, and no obvious exposure to an animal bite, which made us search for an array of diseases before one of our team members suggested it could be a case of imported rabies."

The patient, a 57 year old man who had lived in France for 15 years, had recently returned from a six-month stay in Mali, West Africa. He presented with a fever of close to 101, with abundant sweating, generalized pain, and a slow heartbeat, of 40 beats per minute. The case report characterized brain imaging studies as "unremarkable." The patient tested negative for Herpes simplex-1 and -2, HIV, syphilis, and epilepsy, among other conditions.

However, "two days after ICU admission, [the patient] developed bouts of hyperactivity, disorientation, and delirium with thoughts of impending

death associated with persecution ideas, alternating with periods of drowsiness and returns to normal behavior when he seemed aware of his disorder and criticized it," the investigators report. "Hypersalivation was remarkable and the patient occasionally spat on ICU personnel."

Skin biopsy and salivary swabs obtained on day 13 in the ICU confirmed the diagnosis of rabies, said Brun-Buisson. The strain, which was identified by the National Reference Center for Rabies, Paris, was known to be circulating among dogs in West Africa.

The case's complexity, and the large number of tests undergone had left 158 healthcare professionals potentially exposed to the disease via the patient's bodily fluids. Following evaluations of these personnel, 52 were deemed at risk, and were vaccinated against rabies. Two of them, who had been in close contact with salivary fluids, also received rabies immunoglobulin.

Given the risk to healthcare personnel, the investigators wanted to know whether respiratory tract secretions might be an additional source of exposure when caring for patients ventilated mechanically, via endotracheal tube, who undergo repeated suction of respiratory tract secretions. They found virus in those secretions, but they were unable to grow it in mouse models, said Brun-Buisson. "Therefore our hypothesis is that viral RNA was spreading to the lower airways from the saliva rather than resulting from viral replication in the [respiratory tract](#), itself."

"This case serves as a reminder to physicians that rabies should be considered in patients presenting with unusual neurological symptoms and coming from a geographical area where rabies is a common disease," said Brun-Buisson. "Making this diagnosis early is important, since there is a potential risk for caregivers to be contaminated if strict isolation precautions are not taken. This is obviously of utmost importance as [rabies](#) is a uniformly fatal disease." (The patient died on

day 19 post-admission.)

Rabies has been known for more than 4,300. It is the deadliest infectious disease, with the widest host range of any virus, according to a Stanford University website ([virus.stanford.edu/rhabdo/rhabdoviridae.html](http://virus.stanford.edu/rhabdo/rhabdoviridae.html)). It is also the only infectious disease that in humans can be treated by vaccination following exposure. Prompt administration of immunoglobulin can reduce mortality from 100 percent to zero.

Provided by American Society for Microbiology

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