

PATIENT SURVIVES CLINICAL RABIES

Centers for Disease Control and Prevention (CDC) have reported on a previously healthy 15-year old girl who has survived clinical rabies infection.

The patient is the first to survive rabies without having received rabies vaccine or human rabies immunoglobulin (HRIG), either before or after exposure.

The 15-year old girl was bitten by a bat on one of the fingers of her left hand, but she did not consult a GP. About a month after the bite, the patient presented with fatigue and tingling and numbness of the left hand. In the course of three days, she developed unsteady gait, bilateral double vision, nausea and vomiting. She was then examined by a paediatrician and referred to a neurologist.

Blurred vision and partial bilateral sixth nerve palsy were found. MRI scans with and without angiography was normal. On the fourth day, the patient was admitted for lumbar puncture. In the course of the next 36 hours, she developed slurred speech, nystagmus, tremor in the left arm, increasing lethargy and fever (38.9° C). On the sixth day of illness, the bat bite was mentioned for the first time, and rabies was subsequently considered a differential diagnosis. The patient developed increased salivary secretion and was sedated, intubated and placed in a respirator. Blood, spinal fluid and nuchal skin samples were submitted for rabies testing. Rabies virus-specific antibodies were found in blood and spinal fluid. The nuchal skin sample was found negative for virus antigen, and rabies virus was not isolated from saliva by cell culture. It was thus not possible to identify which rabies virus variant had caused the illness. In the spinal fluid, an increase in anti-rabies IgG from 1:32 to 1:2,048 was measured. The patient was treated with ribavirin according to a research protocol. As rabies antibodies were found in the patient at the time of diagnosis, neither rabies vaccine nor HRIG was given.

After seven days, sedation was discontinued, and the patient was extubated after 33 days of illness. Since then, she has had difficulty speaking due to the prolonged intubation period, has been able to walk with support and has been able to feed herself. The prognosis for full

recovery is unknown. The mortality for rabies in unvaccinated persons has historically been 100%. This is the sixth described case of a patient who has survived rabies. The five previous patients had either been partially vaccinated or commenced post-exposure treatment before onset of symptoms. All except one of the five previous patients had late neurological sequelae.

(A. H. Christiansen, S. Cowan, Department of Epidemiology)

RABIES PROHYLAXIS

In 2004, a total of 84 persons were given prophylactic treatment for rabies after animal bites, [table 1](#).

Table 1. Number of persons given prophylactic treatment, by possible exposure to rabies, 2004

Species	Denmark	Abroad
Dog	0	46
Bat	11	1
Monkey	0	16
Cat	0	6
Other	0	4
Total	11	73

Eleven persons were possibly exposed in Denmark, 18 in the rest of Europe, 42 in Asia, six in Africa, five in South America and one in Canada. For one person, the country was unknown.

A total of 56 persons were treated with HRIG in addition to vaccination. Eleven persons in Denmark received post-exposure treatment because of bat bites, [table 1](#).

One out of 11 bats was investigated and tested negative for rabies. A total of 25 persons were treated after possible exposure in Thailand; 13 dog bites, 11 monkey bites and one cat bite.

Comments

The majority of the possibly exposed persons (87%), who had received prophylactic treatment, had been exposed abroad, especially in Thailand. When counselling before foreign travel, it is important to mention the risk of rabies in the event of encounters with animals.

Similarly, it is important to be aware of the need to use protective gear when handling bats in Denmark. In the event of a bat bite, it is recommended that the bat be tested for rabies, if possible.

(A. H. Christiansen, Department of Epidemiology)

RABIES IN ANIMALS

Classical sylvatic rabies virus is not found in Denmark, however, it is endemic in Greenland, where polar foxes regularly spread the infection to sledge dogs and other mammals, [table 2](#).

Table 2. Rabies investigations in animals, performed in DK, 2004

Species	Denmark No./pos.	Greenland No./pos.
Fox	2/0	16/7
Dog	1/0	3/0
Cat	1/0	-
Squirrel	1/0	-
Bat rabies:		
Bat	18/0	-
Total	23/0	19/7

Classical rabies virus occurs sporadically in most countries in western Europe, and for this reason, programmes for oral vaccination of wild animals are conducted. The infection is found in southern Germany and has a very wide distribution in eastern European countries, including the Baltic states, as well as the Middle East and Asia.

Since 1985, European bat lyssaviruses (EBL) or bat rabies viruses have been detected in bats almost every year in Denmark. The latter is found distributed throughout other northern European countries such as Germany, Poland and the Netherlands.

Occasional deaths have been reported in Scotland (1 case), Russia (2 cases) and Finland (1 case), where humans have been in close contact with bats. In addition, the infection has been detected in several cases in sheep in Denmark, and in cats and martens in other regions of Europe. The number of bats submitted for testing has varied considerably over the years, as has the proportion of infected bats. In 2004, relatively few bats were submitted, and EBL was not detected, [table 2](#).

The risk of human exposure is considered to have been low in recent years, however, the incidental epidemic occurrence of EBL in bats stresses the importance of continuous attention.

(L. S. Christensen, Danish Institute for Food and Veterinary Research, Lindholm)

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2005 figures are preliminary)

Table 1	Week 2 2005	Cum. 2005 ¹⁾	Cum. 2004 ¹⁾
AIDS	2	3	1
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	0	0
Diphtheria	0	0	0
Food-borne diseases	9	13	14
of these, infected abroad	4	5	3
Gonorrhoea	8	13	17
Haemorrhagic fever	0	0	0
Hepatitis A	3	6	2
of these, infected abroad	1	1	0
Hepatitis B (acute)	0	2	2
Hepatitis B (chronic)	3	3	8
Hepatitis C (acute)	0	1	0
Hepatitis C (chronic)	6	7	15
HIV	5	12	12
Legionella pneumonia	2	5	7
of these, infected abroad	0	1	0
Leprosy	0	0	0
Leptospirosis	1	1	0
Measles	0	0	0
Meningococcal disease	0	0	7
of these, group B	0	0	5
of these, group C	0	0	0
of these, unspec. + other	0	0	2
Mumps	0	0	0
Neuroborreliosis	2	7	2
Ornithosis	0	1	1
Pertussis (children < 2 years)	7	11	15
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	0	0
Listeria monocytogenes	0	0	0
Streptococcus pneumoniae	0	0	7
Other aethiology	0	0	0
Unknown aethiology	0	0	1
Under registration	4	10	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	2	3	4
of these, infected abroad	2	2	4
Syphilis	1	3	8
Tetanus	0	0	0
Tuberculosis	7	15	12
Typhoid/paratyphoid fever	1	3	2
of these, infected abroad	0	2	1
Typhus	0	0	0
VTEC/HUS	0	6	8
of these, infected abroad	0	2	2

¹⁾ Cumulative number 2005 and in corresponding period 2004

Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 2 2005	Cum. 2005 ²⁾	Cum. 2004 ²⁾
Bordetella pertussis (all ages)	12	32	36
Gonococci	8	19	1
of these, females	1	1	1
of these, males	7	18	1
Listeria monocytogenes	2	3	1
Mycoplasma pneumoniae			
Resp. specimens ³⁾	97	169	7
Serum specimens ⁴⁾	36	62	17
Pathogenic int. bacteria ⁵⁺⁶⁾			
Campylobacter	66	131	-
S. Enteritidis	7	18	-
S. Typhimurium	8	18	-
Other zoon. salmonella	10	25	-
Yersinia enterocolitica	4	10	-
Streptococci ⁷⁾			
Group A streptococci	3	6	8
Group C streptococci	0	0	0
Group G streptococci	3	8	3
S. pneumoniae	42	80	118

²⁾ Cumulative number 2005 and corresponding period 2004

³⁾ Resp. specimens with positive PCR

⁴⁾ Serum specimens with pos. complement fixation test, MPT

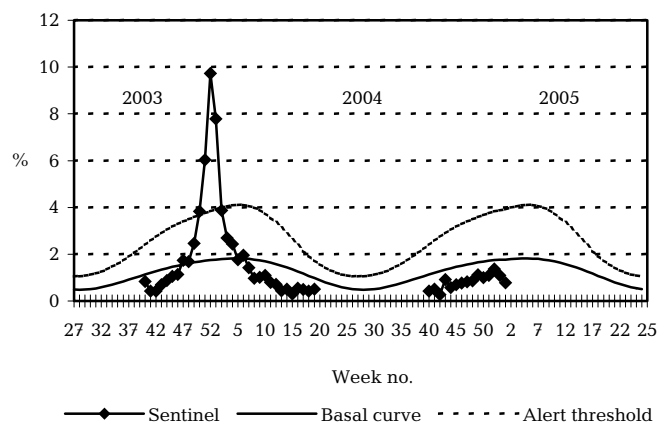
⁵⁾ See also www.germ.dk

⁶⁾ 2004 comparison not possible due to change in reg. procedure

⁷⁾ Isolated in blood or spinal fluid

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2003/2004/2005



Sentinel: Influenza consultations (as percentage of total consultations)

Basal curve: Expected frequency of consultations under non-epidemic conditions

Alert threshold: Possible incipient epidemic