Lot et Garonne departments; the liberal and hospital practitioners and the surveillance network of the French veterinary services; the Regional Union of liberal practitioners of the Aquitaine department. Teams of National Reference Laboratory for animal rabies and National Reference Centre for Rabies.

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ORIGINAL ARTICLES

Outbreak report

A HUMAN CASE OF TRAVEL-RELATED RABIES IN AUSTRIA, SEPTEMBER 2004

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A young male Austrian tourist, aged 23 years and unvaccinated against rabies, was bitten by a dog in Morocco in July 2004. One month later he was hospitalised in Ceuta with symptoms compatible with rabies. He died on 23 September in an Austrian hospital after a diagnosis of rabies was confirmed by FAT, IHC and RT-PCR (including sequencing) of the neck skin and the RT-PCR (including sequencing) of the pharyngeal swab. This Austrian case of laboratory confirmed rabies highlights the urgent need for reinforcement of the international recommendations for travel vaccinations.

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Keywords: Austria, outbreak, rabies

Introduction: case report

Two Austrian citizens, a man aged 23 and a woman aged 21, travelled to Morocco in July 2004. The couple encountered a young dog near Agadir and continued to travel around Morocco with the dog. Soon after, the dog showed a strange and aggressive behaviour. In late July the dog attacked the woman and bit her on the right hand. The man tried to help her and was bitten on the right hand and foot. The dog died soon afterwards and was buried without being tested for rabies. On 1 September 2004, almost one month after the dog attack, the man was admitted to hospital in Ceuta (a Spanish city situated in the north coast of Africa) after presenting with a clinical picture of excitability and confusion. The patient and his girlfriend were given anti-rabies vaccine and anti-rabies gammaglobulins. On 2 September, the patient was transferred to the intensive care unit in a coma after showing symptoms of acute encephalitis and hydrophobia. The patient's hospital records have not been made available to the medical staff who later treated the patient in Austria, and no further details about his clinical presentation are known. A message was sent via the European Union's Early Warning and Response System by the Spanish Ministry of Health after consultation with the Austrian Ministry of Health, in order to fulfil the requirements as laid down in Commission Decision 2000/57/EC [1]. T he patient was evacuated to Austria by air transport and admitted to the intensive care unit of the Abt. für Infektiologie, Medizinische Universitätsklinik Graz, in Steiermark. Psychological counselling was offered to the patient's girlfriend and the family. The patient died on 23 September. His girlfriend, who was admitted to the same hospital together with the patient, did not show clinical signs of rabies and was released from hospital on Sept 17th. She completed the course of rabies vaccination on 28 October, having received vaccination on days 0, 3, 7, 14 and 28.

Methods

Fluorescent antibody testing (FAT), immunohistochemical investigation (IHC) and RT-PCR (including sequencing) were performed from punch biopsy samples of the neck skin. RT-PCR (including sequencing) was also performed from pharyngeal and

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nasal swab, blood, serum and CSF. Rabies tissue culture infection testing was performed from CSF, skin, nasal, conjunctival and pharyngeal swabs. Rabies virus specific neutralising antibody testing was performed from serum samples.

Results

On 8 September a first positive result for lyssavirus RNA by RT-PCR on a punch biopsy of the neck skin was reported by the Centro Nacional de Microbiología, Instituto de Salud Carlos III (Madrid, Spain). On 9 September, rabies infection was confirmed by FAT and IHC of punch biopsy of the neck skin by the National Reference Laboratory for Rabies (Österreichische Agentur für Gesundheit und Ernährungsicherheit, Institut für Veterinärmedizinische Untersuchungen, Mödling). On 23 September the Austrian Ministry of Health was informed by the Centro Nacional de Microbiología, Instituto de Salud Carlos III that a rabies virus genotype 1 of North African origin had been found by sequencing of a 400 bp fragment of the nucleoprotein gene. Thus, FAT, IHC and RT-PCR (including sequencing) of the neck skin, and the RT-PCR (including sequencing) of the pharyngeal swab all gave positive results. In contrast, RT-PCR of other samples (blood, serum, CSF, nasal swab), and rabies tissue culture infection test (CSF, skin, nasal, conjunctival and pharyngeal swabs) did not provide positive results. Rabies virus-specific neutralising antibodies were undetectable in the first serum sample collected during the first week of September and were present in a concentration of 52 IU/ml in the second serum drawn on 21 September. Since the patient had also received several shots of anti-rabies vaccine at that time, interpretation of these data is difficult.

Discussion

Rabies infection usually is confirmed by post-mortem diagnosis of the suspected animal [2]. However, in vivo diagnosis in humans is also possible nowadays [3,4].

In Austria, the last human rabies case was reported in 1979. Animal rabies, oral vaccination campaigns for foxes are taking place in the areas of Burgenland, southern Carinthia and Styria, as well as several parts of Lower Austria, in order to prevent rabies outbreaks due to foxes crossing the borders from neighbouring countries. The last rabies infection to be detected in a fox was reported in May 2004 in Carinthia, and was found to be vaccine related [5]. In contrast to information reported in ProMED mail on from 3 September 2004, the rabies-infected dog in the case reported here was not brought from Austria to Morocco [6]. Rabies is endemic in Morocco, and cases in that country are regularly to the World Health Organization. The latest available data are from 1999 and report 599 animals positive for rabies infection [7].

Since 1990 the number of human rabies cases reported in Europe declined from 22 to 7 [8]. Rare reports of travel-related human cases are occasionally reported from rabies-free countries [9]. This Austrian case of laboratory confirmed rabies highlights the urgent need for reinforcement of the international recommendations for travel vaccinations and post exposure treatment. The case was communicated through the EU's Early Warning and Response System to the EU member states by the ministries of health in both Spain and Austria. Additionally, rabies information sheets were distributed in Austrian airports warning travellers of the danger of illegally importing animals, and informing them of the need for immediate medical care for unvaccinated persons who have been bitten by animals in rabies-endemic countries.

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ORIGINAL ARTICLES

Surveillance report

RABIES SURVEILLANCE, TRENDS IN ANIMAL RABIES AND HUMAN POST-EXPOSURE TREATMENT IN POLAND, 1990 - 2004

M Sadkowska-Todys [1], M Rosinska [1], M Smreczak [2], M Czerwinski [1], JF Zmudzinski [2]

This paper describes recent changes in the epizootical and epidemiological situation of rabies in Poland. Analysis of routine surveillance data on animal cases and human post-exposure treatment was performed in order to examine the impact of introduction of cell culture vaccine for human use and the implementation of the fox immunisation programme. The success of the immunisation programme for wild animals has become evident during the past 3 years, as a 9-fold decrease in animal rabies cases has been observed. To date, however, the downward trend in animal rabies cases has had no effect on the frequency of administration of the post-exposure treatment for humans. Moreover, two cases of locally acquired human rabies have occurred in patients who did not receive post-exposure vaccination. These cases prove that rabies should be still considered a public health concern in Poland.

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Key words: Poland, rabies, surveillance

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