

Research highlights the importance of seeking prompt medical advice following rabies exposure

There is only a short window of opportunity to seek medical help before rabies becomes almost invariably fatal, but people wait an average of 10 days before seeking medical advice following exposure to potentially rabid animals overseas, according to new research being presented at this year's European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) in Amsterdam, Netherlands (13-16 April). The average delay in seeking treatment following bat exposures in the UK was almost three days.

"The findings highlight the importance of raising public awareness around the risks of rabies, both for travellers visiting rabies-infected countries and from bat exposures in the UK", says co-author Dr Kevin Brown, Head of Rabies and Immunoglobulin Service for Public Health England.

Symptoms typically take 2 to 3 months to appear, but can develop in as little as a week (following severe bites to the head) or up to several years after exposure. "Preventive treatments are 100% effective if given promptly after exposure", says Dr Brown. "That's why seeking prompt care is so important, even if the wound or incident seems very trivial. If you are bitten, scratched, or licked by an animal you must wash the wound or site of exposure with plenty of soap and water and seek medical advice without delay. Travellers should not delay waiting for treatment until they return to the UK."

Rabies is a zoonotic infection (a disease that spreads from animals to humans) that can cause a rare but life-threatening infection of the brain and nervous system in humans. It usually results from a bite, scratch, or lick from an infected animal. The virus is estimated to kill around 59,000 people every year worldwide, most often as a result of a bite from a rabid dog in parts of Africa and Asia.

Rabies does not circulate in wild or domestic animals in the UK, although some species of bats can carry rabies-like viruses (European Bat Lyssavirus type 1 and type 2). Every year around 150 people in England are treated after being bitten by a bat.

People who believe they may have been exposed to rabies are advised to immediately seek treatment which involves a series of rabies vaccinations with or without immunoglobulin, an antibody treatment that gives immediate short-term protection while the vaccines start to work.

In England, national rabies advice, guidance and treatment is provided through the Rabies and Immunoglobulin Service within Public Health England, with ten issuing centres around the country.

In this study, medical staff from one of the issuing centers in Manchester, North West England conducted a review of all requests for rabies post-exposure treatment at their lab between June 2015 and June 2018.

In total, 200 patients (aged 0-77 years old) received post-exposure treatment through the virology laboratory. Over a third (69/200 patients) were aged 20-29 years old. The vast majority of patients (92%; 183/200) had not received any rabies vaccination in the past.

Results showed that over three-quarters (79% (157/200)) of post-exposure treatment was given to travellers returning to the UK from 43 different countries.

However, 1 in 5 individuals (22%; 42/200) reported an exposure to a bat in the UK. "While the risk of catching rabies in the UK is extremely low, it is important that all potential bat bites are risk-assessed and treated as necessary. Bat bites in the UK often do not leave a mark, and are felt rather than seen", says Dr Brown.

In the UK, although prompt treatment is recommended, given the prolonged incubation time it is never considered too late to receive post-exposure treatment for an exposure.

In separate research, Public Health England doctors found a 7.5-fold increase in the number of risk assessments performed for rabies post-exposure in England since 2001—increasing from 390 in 2001 to 2949 in 2018—the majority as a result of dog bites in South and South East Asia, whilst around 1 in 10 were for bat bites in England.

Of the previously unimmunised individuals exposed to animals overseas, 40% did not seek rabies post-exposure treatment overseas, but waited until return to the UK. Similar to the results from Manchester, more than 60% of bat bites sought treatment within 2 days.

Nationally, in addition to the advice and guidance, Public Health England provides rabies vaccine and rabies immunoglobulin for all potential rabies exposures in England. In mid-2018, the guidance on post-exposure treatment for rabies was updated. The routine vaccine schedule for unimmunised individuals was reduced from 5 doses of vaccine to 4 doses. Additionally, a composite rabies risk (red, amber, or green) was calculated for each exposure, taking into account the country and animal risk; and the category of exposure. Rabies immunoglobulin was only recommended in cases with a 'Red' composite rabies risk, ie a category 3 exposure (bite or laceration) in a 'high risk' country/animal risk combination. Rabies immunoglobulin is also no longer given for bat bites in the UK, although still advised for non-UK bat bites.

Further analysis showed that in the first 6 months following the introduction of the new guidelines, there was a significant increase in the number of calls about possible cases of rabies compared to the same period in 2017 (1727 vs 1157). Nevertheless, there was a decrease in both the number of vaccines (2.4 vs 3) and vials of immunoglobulin (256 vs 575) issued as

treatment.

“Those completing the risk assessment found the process easier to follow, and there was less risk of inappropriate treatment given”, says Dr Brown. “The new guidance has led to a significant reduction in the costs of running the program, whilst still ensuring appropriate treatment for those at potential risk of rabies.”