Rabies in BC: A prophylaxis guidelines update

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Table. Indications for provision of RPEP.*

Type of contact	Provision of RPEP
Bite or mucous membrane exposure to saliva of known infected human	Yes
Any direct physical contact with a bat anywhere in the world	Yes if: • bat tests positive for rabies, *or* • bat is not available for testing, *or* • testing results are unreliable
Bite, scratch, or mucous membrane exposure to saliva of domestic dog, cat, or ferret in Canada	Animal is observed for 10 days. If it exhibits signs of rabies, it will be euthanized and sent for rabies testing. RPEP is provided if test is positive.
Bite, scratch, or mucous membrane exposure to saliva of other terrestrial mammal in Canada	If available, test animal for rabies. If animal is not available, RPEP may be provided depending on local epidemiology and animal behav-
Bite, scratch or mucous membrane exposure to saliva of terrestrial mammal elsewhere in the world	Consult with local medical health officer

*RPEP = rabies postexposure prophylaxis. A BC clinician considering providing RPEP to a patient must consult with the local medical health officer.

Rabies is an almost invariably fatal zoonotic infection, and globally claims an average of 55 000 lives annually, mostly in Asia and Africa.[1] Rabies is transmitted by the saliva of an infected animal, usually through a bite or scratch. Symptoms include fever, headache, malaise, dysphagia, and finally paralysis and death due to respiratory failure 2 to 6 days after the onset of symptoms. Diagnosis is made by fluorescent antibody (FA) staining or cell culture of brain tissue. Presumptive diagnosis is made by FA staining of skin tissue from the hairline at the back of the head. The incubation period is 3 to 8 weeks, or as long as several years depending on such factors as the severity of the wound, richness of innervation at the wound site, its distance from the brain, and the strain of virus.[2] Immediate wound washing and a course of rabies postexposure prophylaxis (RPEP) as soon as possible following rabies exposure are critical to prevent this disease.

In 1995 the Centers for Disease Control and Prevention first suggested that, in addition to direct contact exposures, RPEP should also be offered to people awakening to find a bat in their bedroom, even if there was no evidence of a bite or scratch.[3] This was based partly on the recognition that bat bites/scratches may be so minute as to go undetected and because human cases of bat rabies had been reported without recognized contact. In the following years, all North American jurisdictions revised their policies to recommend that a potential rabies exposure should be considered where a bat is physically present in a room and the individual cannot provide a history that excludes any possible bite, scratch, or mucous membrane exposure (e.g., child in a room with a bat, person sleeping in a room/tent with a bat). From 2003 through 2007, 364 recommendations for RPEP for this type of exposure were made in BC, representing a nearly sixfold increase in the use of RPEP in BC between 1997 and 2007 (unpublished data).

A recent Quebec survey found that ~0.1% of the population annually may qualify for RPEP under the revised recommendation as exposed while sleeping to a bat in the bedroom. However, only a small minority (~<5%) of such exposed and RPEP-eligible individuals sought medical advice and received RPEP.[4] Nevertheless, the incidence of rabies in the US and Canada remains exceedingly rare; only 56 nontransplant bat-variant cases were reported between 1950 and 2007 (six in Canada, including one indigenously acquired case in BC); only two of these cases of bat-variant rabies had unrecognized physical contact in the bedroom.[5] The incidence of rabies preventable by providing RPEP to people with unrecognized exposure in the bedroom is thus estimated at 1 per 2.7 billion person-years. The number needed to vaccinate to prevent a single case of rabies in that context is 2.7 million at a cost of $2.1 billion in biologicals alone, per case prevented.[4]

On the basis of this re-analysis of the rare risk of rabies associated with bedroom exposure alone (without recognized bat contact), the 2009 BC Rabies Guideline has been revised to recommend that RPEP should be offered only if direct physical contact with a bat has occurred. A few other Canadian provinces have already made this policy change and the rest are expected to follow. RPEP should

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still be considered after bites, scratches, or mucous membrane contact with any other animal with suspected or confirmed rabies as indicated in the Table.[6]

In the event that rabies is not prevented, recognition of symptoms is critical. Transplanting of organs from individuals who have died from undiagnosed rabies has been implicated in five cases of rabies transmission from two donors.[5]

Fortunately, rabies remains a rare disease. Therefore, guidelines for administering RPEP in relation to bats have been revised to more reasonably reflect that risk assessment. Prevention by limiting opportunities for physical contact with bats as well as postexposure prophylaxis constitute the cornerstone of protection.

References

1. World Health Organization. Rabies vaccines WHO position paper. Weekly epidemiological record. 7 Dec 2007; 49/50:425-435.
2. Heymann, DL. Control of Communicable Diseases in Man. 18th ed. Washington, DC: American Public Health Association; 2004.
3. Paves A, Gill P, Mckenzie J, et al. Human rabies: Washington 1995. MMWR 1 Sep 1995;44(34):625-627.
4. De Serres G, Skowronski D, Mimault P, et al. Bats in the bedroom, bats in the belfry: Re-analysis of the rationale for rabies post-exposure prophylaxis. Clin Infect Dis 2009. In press.
5. De Serres G, Dallaire F, Cote M, et al. Bat rabies in the United States and Canada from 1950 through 2007: Human cases with and without bat contact. Clin Infect Dis 2008;46: 1329-1337.
6. BC Centre for Disease Control. Communicable Disease Control—Chapter 1—Management of Specific Diseases: Rabies [updated 28 Feb 2009]. http://bccdc.org/content.php?item=192.

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The program has three levels: foundation, focused, and advanced. The advanced courses represent the evolution of the PMI program over the past 20 years and are targeted at physician-managers and leaders who have completed the foundation courses but are seeking more training in specific areas.

The 2.5-day courses are offered throughout the year and feature training in strategic planning, health human resource management, finance and economics, and increasing strategic influence.

For further information and to add your name to the mailing list, e-mail professional_development@cma.ca or visit www.cma.ca/index.cfm/ci_id/86920/la_id/1.htm.

The PMI program qualifies for CME credits

—Steve Wharry
CMA Communications

VMA annual Osler Dinner

The 88th annual Osler Dinner will be held on Thursday, 26 March 2009, at the Shaughnessy Golf and Country Club in Vancouver. Dr Peter Newbery will give the Osler Lecture this year, titled A Gold Thread—One of Osler's Secrets.

Past members will be recognized and Primus Inter Pares awards will be handed out. To encourage younger colleagues, bring a student or resident. Spouses are also welcome to attend.

Tickets are $65 per person ($55 for students and residents). For further information contact the Vancouver Medical Association at 604 638-2843.

Two dynamic UBC MED social events

The 2nd-year medical student class would like to invite everyone to attend the upcoming MedRun and MedBall. The MedRun is an annual 5 km walk or 10 km run to raise money for UBC Rural Family Medicine Clerkships. The run is taking place on 4 April at UBC, UVic, and UNBC sites. Tickets are $10. The MedBall will be Casino Royale, a night of James Bond inspired elegance and glamour at the River Rock Casino in Richmond on 18 April. Tickets are $50. Visit www.ubcmed.com for further details.

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Guide to Drive

The Office of the Superintendent of Motor Vehicles (OSMV), in partnership with the BCMA, is revising the BC *Guide for Physicians in Determining Fitness to Drive a Motor Vehicle* to ensure that it reflects changes in the case law and the best evidence available regarding medical conditions and fitness to drive.

Draft chapters may be viewed at Drivesafe.com, on the public side of the BCMA web site, and at the SGP web site.

Chapters available include Brain Injury, Brain Tumor, Cardiovascular Disorders, Cerebral Palsy, Cerebrovascular Disease, Diabetes, Epilepsy and Seizure, Hearing, Multiple Sclerosis, Musculoskeletal Disorders, Parkinson's Disease, Peripheral Vascular Disease, Psychiatric Disorders, Renal Disease, Respiratory Disorders, Sleep Disorders, Syncope, and Traumatic Vestibular Disorders.

Feedback to the project team is encouraged, even if it is positive. Feedback instructions are in the documents themselves.

—John McCracken, MD, Medical Consultant, OSMV