



RABID BYTES

The Newsletter of
The Alliance for Rabies Control

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Editorial

As I read through this month's Rabid Bytes, and reflect on my recent trip to Tajikistan, I am again shocked by how rabies continues to inflict human and animal suffering to a wide variety of communities in many countries across the world. The common thread in all of these situations is the fact that the majority of all human rabies deaths occur in children, are caused by dog bites, and virtually all could have been averted.

Knowing how precious to me my own child and grandchild are, and trying to comprehend what it must be like to lose a child, grandchild or other family member to rabies is overwhelming to say the least. I have heard many heartbreaking stories from individuals across the world that have had to live through just such a devastating experience.

As you read through this Newsletter, you will again understand how rabies continues to take away precious lives of loved ones from individual families across the world. It is

my sincere wish that as each of you read the statistical data of human rabies cases typed as black and white information on a page, that you picture one of your own family and consider what would be the emotional impact of losing them to a totally preventable disease.

One of the most common phrases that I have heard from families tragically losing a loved one to rabies begins with, "If I had of only known..." Knowing how to prevent rabies is the key to saving lives from this horrific disease. With this in mind, the Alliance for Rabies Control is currently compiling a global educational data base that would be accessible to anyone requiring information on rabies prevention. If you are interested in supporting this project through the donation of educational materials or financial support, please contact peter.costa@worldrabiesday.org.

Best wishes, Debbie

Deborah Briggs, Executive Director, ARC

ARC website address change

The ARC website address has changed to www.rabiescontrol.net and we have taken the opportunity to update our distribution system for the newsletter. If you need to change your email address, or would like to unsubscribe from the mailing list, then please email louise.taylor@rabiescontrol.net.

Human Rabies in Bangladesh

Rabies is a major public health problem in Bangladesh, and is distributed uniformly in all parts of the country. Accurate statistics are not available, however, scattered hospital records indicate that about 2,000 people die from rabies each year. Dogs are mainly responsible for the transmission of rabies to humans and diagnosis of rabies is made on clinical grounds only as the laboratory facilities are limited.

The annual number of cases of rabies at the Infectious Disease Hospital (IDH), Dhaka has not changed significantly over the last 10 years, indicating the urgent need to review the approach to preventing rabies in Bangladesh.

About 100,000 patients receive post-exposure prophylaxis (PEP) annually. The majority of the patients receive nerve tissue vaccine (NTV) but the use of tissue culture vaccine (TCV) has been increasing steadily over the last 10 years. The use of rabies immune globulin (RIG) is very limited because of its high price and inadequate supply. NTV is being produced in Bangladesh while TCV is imported. Although associated with poor efficacy and troublesome side effects, NTV is the main vaccine for most poor people following animal exposure in this country.

Analysis of the 684 cases of human rabies that came to the IDH, Dhaka (the principal center for referral of rabies cases from all over the country) from June 1999 to November 2003 revealed that the majority of the victims (64.2%, 439/684) were below 15 years of age. The bulk of the cases were male (76.8%, 525/684) and rural people (86.4%, 591/684) and 80.3% of the cases (549/684) had WHO category III exposure. Most of the victims did not receive any vaccination (86.04%, 591/684). Among the 93 cases who did receive vaccine, only 9 (9.67%) received TCV and 84 (90.3%) were treated with NTV. Of these, only 4 and 58 patients respectively received a complete course of vaccine, and none of the 684 cases received RIG. Dogs were the principal animal responsible for 95.76% (655/684) of cases, and 65.93% of the cases (451/684) developed the disease between 31 to 100 days after exposure.

Rabies is a deadly but preventable disease. It is difficult to eliminate rabies from a country like Bangladesh. However, effective control of canine rabies, adequate PEP with modern TCV and RIG (when indicated) according to WHO guidelines, health education, and committed and coordinated actions from different government and non-government organizations, could help to make a rabies-free Bangladesh.

This piece was contributed by Dr M. Matiur Rahman, Assistant Professor, Department of Medicine, Sir Salimullah Medical College and Mitford Hospital in Dhaka, Bangladesh. Further information can be obtained by emailing rahmanmm31@hotmail.com.



Rabies in Peru, a social challenge

Rabies still kills people in Peru. All of the victims are poor, most of them are children, most of them are from native ethnicities, and many of them arrived in endemic areas searching for a better future but find death.

The Ministry of Health of Peru collaborated with the Pan American Health Organization (PAHO) to eliminate canine rabies in Peru and worked intensely from 1994 to 2003 to achieve this goal. No cases of human rabies due to the canine strain were reported from 2001 to 2004. Unfortunately, due to changes in national public health priorities, rabies activities were reduced, and consequently cases of canine rabies in humans were reported in 2005 and 2006, and dozens of animal rabies cases were reported across the country.

In addition, vampire bat rabies outbreaks in humans have been reported more often since 1995, when the rabies program started to pay attention to this problem. In 2007, an outbreak killed 23 people in Madre de Dios, most of the victims went to the endemic areas attracted by the gold dredging activity. This was a wake-up call for Peruvian authorities to put rabies back in the public health agenda.

In this context, Peru promptly embraced the World Rabies Day (WRD) initiative, becoming the first country in the world to officially sign-up to the global campaign. Peru's commitment to eliminate canine rabies, control bat rabies, and to educate the population was manifest during the WRD activities across the country. This year, a postage stamp to commemorate WRD and promote rabies prevention will be issued by SERPOST (the Peruvian postal services).

Peru currently deals with canine rabies in the area of Puno (Genotype 1), bordering with Bolivia where canine rabies is still endemic. Vampire bat rabies (Genotypes 3 and 5) is endemic in many areas of the Amazon jungle including Amazonas, Apurimac, Cajamarca, Cusco, Huanuco, Loreto, Madre de Dios, Pasco, San Martin, and Ucayali. Although the Peruvian economy is booming, those areas endemic for rabies are poor and far from the cities, and access and conditions to provide rabies prevention are major challenges for local health authorities.



A child working at a gold dredging site is vaccinated during a human rabies outbreak, Madre de Dios, 2007. Photo by Jorge Gómez and Marcia Cáceres, Ministry of Health, Peru

This piece was contributed by Dr Sergio Recuenco of the Poxvirus and Rabies Branch at the Centers for Disease Control And Prevention, Atlanta, USA. Further information on the rabies situation in Peru (in Spanish) is available at www.scielo.org.pe/pdf/rins/v24n1/a08v24n1.pdf and www.oge.sld.pe/buho/buho_rabia.pdf. The Peru Ministry of Health WRD webpage is at www.minsa.gob.pe/PortalMINSA/efemerides/rabia/default.asp

Rabies mission notes from Tajikistan

How does one begin to control rabies in a country like Tajikistan where the annual budget for rabies prevention and control is less than the cost of a second hand car in the western world? Unfortunately, the situation in Tajikistan, in central Asia, is not unusual when it comes to rabies control as many countries throughout Asia and Africa face the same problems: Rabies mainly circulates in the dog population; human vaccine is in short supply and very expensive; Rabies Immunoglobulin is usually unavailable; and finally, frequent power failures make adequate storage of rabies biologicals impossible. Diagnostic laboratories are few and far between and difficult to maintain because of insufficient funding, therefore few diagnostic samples are submitted for testing after human exposures occur. Dog vaccination is practically non-existent due to the unavailability of vaccines and if it does occur, it is generally conducted in a small area surrounding where a dog confirmed positive for rabies has resulted in a human exposure.

As in other developing countries, adequate solutions for rabies control in Tajikistan are not easy to find. If there is any good news for the country, it is that most of the population has access to education, resulting in a literacy rate close to 100%. Education is the basic key to rabies prevention and, indeed may be the only course of action that countries like Tajikistan with severely limited national health budgets can manage in the short term.

Improving the education for rabies prevention can prevent unnecessary rabies deaths. In the Philippines, for example, recent data has indicated that when rabies education was incorporated into the school curriculum of elementary school children, the number of rabies deaths decreased by over 50% in just one year. Since children continue to incur the highest number of dog bites in canine rabies endemic countries and subsequently make up the largest percentage of rabies victims, education should be a top priority for this age group.

The Alliance for Rabies Control is currently coordinating a global rabies education bank that would be accessible through various means (including the world wide web) to countries like Tajikistan. Motivated individuals will then have access to teaching materials for all levels of society including medical and veterinary professionals, animal control workers, governmental offices and children. Clearly, many suitable educational materials for rabies prevention have already been developed, but they may not be easily accessible to those at greatest need. We therefore invite all of our readers that are interested in working with us to improve the general education about rabies prevention throughout the world, to kindly donate their rabies prevention teaching materials to the ARC rabies educational bank. For more information please contact Peter Costa at: peter.costa@worldrabiesday.org.

This article was submitted by Dr Florence Cliquet (f.cliquet@afssa.fr) and Dr Thomas Mueller (Thomas.Mueller@fli.bund.de) Directors of the OIE/WHO CC for Rabies in Malzeville, France and Wuesterhausen, Germany respectively with Dr Deborah Briggs, Director of ARC (Deborah.briggs@worldrabiesday.org) all of whom recently returned from a WHO rabies mission to Tajikistan and Uzbekistan.



Dog catching equipment in Dushanbe. The net has a big hole in the end, allowing dogs to escape and putting dog catchers in danger of being bitten.

The Constant Fight Against Rabies in Rural Alaska

Alaska's Yukon-Kuskokwim (YK) Delta (roughly the size of the state of Oregon) has 58 native communities ranging from 50 to 1,500 people with several having more dogs than people. These communities lack roads, so access is by small bush planes, long snowmobile trips in the winter, small boats in the summer, or the occasional hovercraft. The YK Health Corporation (YKHC) is based in the hub community of Bethel and is responsible for providing healthcare to these native communities. YKHC's Office of Environmental Health and Engineering (OEHE) has four Environmental Health Officers (EHOs) from the United States Public Health Service (USPHS). These four individuals take the rabies risk very seriously, traveling extensively, often in perilous conditions and work in outside temperatures that can freeze vaccines fast. Their roles are multiplied because the region lacks a full-time veterinarian.



Rabies is considered endemic in over 20 percent of the YK Delta fox population. The YK Delta has a large population of both the red fox and the white arctic fox that are commonly hunted for their beautiful furs. Contact between foxes and humans, and foxes and domestic pets, is an everyday occurrence. Stray dogs represent a real threat because they can



seek out wild animals that may be carrying the rabies virus and return to the community, endangering everyone. Most communities don't have a system for handling them and some may have spiritual beliefs against killing them. "The last frontier certainly has its fair share of rabies, which makes it essential to maintain a constant level of awareness to protect our population," says Brek Steele, one of the OEHE team.

The OEHE team sustains a constant effort to protect the community from the rabies virus by traveling to the remote villages, vaccinating dogs and cats, and training village-based, lay vaccinators. During the four months of warm weather it is not uncommon for the EHOs to fly out to two or three villages in a week, spending the night on the floor in schools or clinics and vaccinating all day long. Each year, the team vaccinates between 1,500 and 2,000 animals, trains approximately 10 new lay vaccinators, works with village clinic health aides and police officers to investigate more than 100 animal-bite reports, prepares dozens of potentially rabid specimens for lab analyses, and coordinates with health providers and the State Department of Epidemiology for post exposure treatments.

The OEHE team tries to maintain a constant awareness in its communities regarding rabies by publishing articles in the YKHC newsletter and on its website, giving public safety announcements on the radio, and giving presentations on rabies in community schools. Last year, the OEHE team conducted 10 rabies presentations, educating over 50 health aides and more than 100 students.

Article by Brek Steele, a Lieutenant General Junior Grade in the OEHE team. Further details are at www.ykhc.org and www.usphs.gov.

New Rabies Group for French-speaking Africa

In Africa, a person (usually a child) dies from rabies every 20 minutes. This situation is not acceptable, knowing that rabies is completely preventable using WHO recommended procedures. In an effort to help move rabies prevention strategies forward in North African countries, around thirty scientists and heads of Health departments from 14 French-speaking countries of the African Continent and the Institute Pasteur of Paris met in Grand Bassam (Côte d'Ivoire) on March 10 – 13, 2008. The meeting was sponsored by the Minister of Health and Public Hygiene of Côte d'Ivoire, represented by Dr Allah Kouadio Remy, and was opened by the Health General Inspector, Prof Joseph Andoh. The meeting marked the inauguration of AfroREB (Africa Rabies Expert Bureau), a new association consisting of the rabies experts of Madagascar, Maghreb and French speaking countries of the Western and Central part of the African Continent.

The initial mission of each of the members of AfroREB is to ensure that the Health authorities are aware of the rabies burden in their own countries. There is an urgent need to increase disease surveillance so that rabies can be included on the list of notifiable diseases within each country. This will ensure that the disease burden throughout the AfroREB region is more clearly defined and that rabies does not remain a neglected disease. The AfroREB members also noted the limited number of dog bite centers and the fact that it is difficult for most of the affected patients to obtain access to care and appropriate treatments. As a consequence, AfroREB will continue to lobby National Health authorities from North African countries to focus on this problem and appeal to them to make appropriate rabies treatment more accessible to all patients.



Additionally, education is critical to human rabies prevention and the members of AfroREB again stressed the life-saving value of thoroughly washing all wounds from suspect rabid animals with water and soap for at least 15 minutes and the urgent need to immediately visit the nearest appropriate health center to receive appropriate PEP, including the first vaccine injection and RIG. It is essential for all levels of society to be well informed about proper rabies prevention in order to save human lives. The experts of AfroREB especially noted the importance of increasing training for medical staff in addition to the general public. Of particular significance is the need to increase educational awareness in schools, targeting children as the population most at risk of animal bites. This year's World Rabies Day, to be held on September 28th, in which AfroREB will actively participate, provides unique opportunities to increase educational awareness across society.

In their conclusions, the experts of the various French-speaking countries of the African continent renewed their commitment to establishing a community of collaboration and active exchange through the newly established AfroREB.

This piece was contributed by Betty Dodet on behalf of AfroREB. The AfroREB website will be up and running soon at www.afroreb.info.

Rabies Program in the Philippines: A High-level Commitment

The Philippines ranks among the top ten countries worldwide for human rabies deaths. According to the annual human rabies and bite victims report from the Department of Health (DOH), more than 150,000 animal bites and over 250 human rabies cases have been reported annually. The domestic dog is responsible for more than 98% of these cases, reported from all regions of the country.

The government's Interagency National Rabies Committee has responded through the DOH, establishing more than 300 animal bite treatment centers nationwide and improving access to post-exposure treatment using modern cell culture vaccines and training private sectors managing animal bites. The DOH with the Departments of Agriculture (DA) and Interior and Local Government (DILG) are embarking on canine rabies control programs. Moreover, the DOH with the Department of Education (DepED) has intensified an information and education campaign on rabies prevention and control by integrating it into the primary school curriculum. This scheme is being piloted in many provincial schools with the intent to use it for all public schools nationwide, most of which are within the hands of local governments.



The Philippine Department of Health has embarked on a flagship program called **Defining the Road Map for Reforms: FOURmula ONE for Health (F1)**. This is the implementation framework for health sector reforms in the Philippines for 2005-2010. It is designed to implement critical health interventions as a single package, backed by effective management infrastructure and financing arrangements and providing a road map from the national down to the local levels. Aligned with F1, the DOH has identified a **Disease-Free Zones Initiative**, with the objective of reducing the public health threat of rabies alongside enhanced health promotion and surveillance. The initiative aims to eliminate diseases such as Leprosy, Schistosomiasis, Filariasis, **Rabies** and Malaria. In the National Objectives for Health, the program aims to reduce the incidence of Human Rabies to

less than 0.5/million and the number of rabid dogs to less than 5 per 100,000 dog population by 2010. It is through these objectives that the Department of Health has set the goal of a Rabies-Free Philippines by 2020 based on the standard for Rabies-Free Zones set by the World Health Organization and the World Organization for Animal Health.

In February 2007, during the Thirteenth Congress of the Republic of the Philippines, the Republic Act No. 9482 known as the **Anti-Rabies Act of 2007**, was enacted to provide for the Control and Elimination of Human and Animal Rabies. It included mass vaccination of dogs; establishment of a central database; impounding, field control and disposition of unregistered, stray and unvaccinated dogs; responsible dog ownership practice; an information and education campaign; provision of pre-exposure treatment to high risk personnel and post-exposure treatment to animal bite victims. Under this new law, pre-exposure prophylaxis for schoolchildren aged five to fourteen in high risk areas (pictured in Cabusao, Bicol) is mandated. Sustained government investments are being made. The one hundred million pesos (US\$ 2.5M) necessary to implement the provisions of this Act was initially charged against the appropriations of the DOH, DA, DILG and DepEd under the General Appropriations Act. For the local governments, the requirements are taken from their Internal Revenue Allotment and other local funds.

This article was contributed by Dr Betsy Miranda, a Veterinary Public Health & Zoonoses Specialist from the Philippines. Further information is available from www.doh.gov.ph/fourmulaone/primer.

Upcoming meetings

The 9th meeting of the South and East African Rabies Group (SEARG) will take place at the CICE Conference Venue, Botswana College of Agriculture, Gaborone, Botswana from 25th - 28th August 2008. Further details at www.up.ac.za/searg.

The 19th annual RITA meeting will be held from September 28 – October 3, 2008 at the Centers for Disease Control and Prevention in Atlanta, Georgia, USA. Further details are available at www.rabiesintheamericas.org.

Announcing the 2008 RITA Conference Annual Benefit Auction (We Need Your Help!)

It is getting to be that time of year again....Time to be thinking about making plans to attend the Rabies in the Americas annual benefit auction to support both the Latin American Rabies Investigators Award and to invest in the future of the RITA Conference! We are again asking for your help in terms of donations and willingness to purchase items at the conference.

For the past few years in both Ottawa, Canada and in Brasilia, Brazil we have held a fun filled informal auction of items donated by RITA conference attendees and others dedicated to the prevention and control of rabies. Thanks to tremendous support in donations and a willingness of conference attendees to purchase these often "unique" donations we have raised thousands of dollars for a very worthy cause.

This year's auction will again be held in conjunction with the RITA conference gala dinner on **Wednesday, October 1, 2008**. To keep the momentum going in 2008 we are requesting that people donate items for the auction. Big, small, serious and funny — It's all good and we want it! We will be collecting donated items at the conference registration desk in Atlanta as people arrive. However, if you would like to donate items, but will not be attending RITA this year please contact Richard Chipman (richard.b.chipman@aphis.usda.gov) or Luis Lecuona (luis.lecuona@aphis.usda.gov).



The editor of the ARC newsletter is Louise Taylor who can be contacted at louise.taylor@rabiescontrol.net. If you have any news items or information of interest to those wanting to reduce the burden of suffering of rabies, then please contact Louise. For more information about rabies prevention and the Alliance, please see www.rabiescontrol.net.