

suggests that sporotrichosis is more prevalent in tropical environments with relatively cool temperatures and high humidity such the Peruvian Andes (9), northwest India (5), southwestern Vietnam (8), and in Laos in the Plain of Jars. If this environmental association is correct, sporotrichosis may occur more extensively in the cooler humid areas of Asia, such as the highlands of China, Laos, Vietnam, and Burma. Sporotrichosis can disseminate in HIV-infected patients, and this syndrome may increase as the prevalence of HIV infection rises in these areas.

With 73% of the Lao population living on <US\$2/day (10) and one accessible microbiologic culture laboratory in Laos, PCR is not an available local routine diagnostic technique. We were fortunate to have access to an overseas diagnostic facility, which allowed confirmation of the clinical diagnosis before the patient received a prolonged course of a drug with adverse effects and drug interactions.

Diagnosis by histopathologic examination and culture may be difficult, and identifying laboratories in different regions of the subtropics and tropics with an interest in diagnosis of sporotrichoid lesions and the capability to perform culture and PCR would facilitate the diagnosis and awareness of this disease. Itraconazole, which has become the drug of choice for lymphocutaneous sporotrichosis, is expensive. Saturated solution of potassium iodide is an inexpensive alternative and appears to be effective, although adverse effects occur frequently (3,4).

#### Acknowledgments

We thank the patient and Chanpheng Thammavong, Tran Xuan Mai, Mayfong Mayxay, and Tran Duc Si for their help.

This study was part of the Wellcome Trust–Mahosot Hospital–Oxford Tropical Medicine Research Collaboration, funded by the Wellcome Trust of Great Britain.

Paul N. Newton,\*†  
Wen-Hung Chung,‡  
Rattanaphone Phetsouvanh,\*  
and Nicholas J. White\*†§

\*Mahosot Hospital, Vientiane, Lao People's Democratic Republic; †Churchill Hospital, Oxford, United Kingdom; ‡Chang Gung Memorial Hospital, Taipei, Taiwan, Republic of China; and §Mahidol University, Bangkok, Thailand

#### References

- Hu S, Chung WH, Hung SI, Ho HC, Wang ZW, Chen CH, et al. Detection of *Sporothrix schenckii* in clinical samples by a nested PCR assay. *J Clin Microbiol.* 2003;41:1414–8.
- Telenti A, Marchesi F, Balz M, Bally F, Bottger EC, Bodmer T. Rapid identification of mycobacteria to the species level by polymerase chain reaction and restriction enzyme analysis. *J Clin Microbiol.* 1993;31:175–8.
- Kauffman CA. Sporotrichosis. *Clin Infect Dis.* 1999;29:231–7.
- Kauffman CA, Hajjeh R, Chapman SW. Practice guidelines for the management of patients with sporotrichosis. *Clin Infect Dis.* 2000;30:684–7.
- Ghosh A, Chakrabarti A, Sharma VK, Singh K, Singh A. Sporotrichosis in Himachal Pradesh (north India). *Trans R Soc Trop Med Hyg.* 1999;93:41–5.
- Pinn TG. Sporotrichosis in a Queensland bushwalker. *Med J Aust.* 1998;169:287.
- Kwangskuth C, Vanittanakom N, Khanjanasthiti P, Uthammachai C. Cutaneous sporotrichosis in Thailand: first reported case. *Mycoses.* 1990;33:513–7.
- Tran Xuan M, Tran Thi H, Tran Thi KD. Diagnosis of sporothrix by direct slide agglutination method and immunoperoxidase ELISA. *Journal of the University of Medicine and Pharmacology of Ho Chi Minh City, Vietnam.* 1994;(Suppl 2): 280–8. [Vietnamese]
- Pappas PG, Tellez I, Deep AE, Nolasco D, Holdago W, Bustamante B. Sporotrichosis in Peru—description of an area of hyperendemicity. *Clin Infect Dis.* 2000;30:65–70.
- United Nations Development Programme. Human development indicators, 2004. [Available from <http://hdr.undp.org/reports/global/2004/> (cited 17 Jul 2005)].

Address for correspondence: Nicholas J. White, Faculty of Tropical Medicine, Mahidol University, 420/6 Rajvithi Rd, Bangkok 10400, Thailand; fax: 66-2-354-9169; email: nickw@tropmedres.ac

## West Nile Virus Antibodies in Colombian Horses

**To the Editor:** West Nile Virus (WNV) is rapidly spreading in the Western Hemisphere (1). We report the first evidence for WNV transmission in South America.

WNV is serologically related to the Japanese encephalitis complex of flaviviruses (Flaviviridae), which includes Saint Louis encephalitis virus (SLEV) (in North and South America), Japanese encephalitis virus (Asia), and Murray Valley encephalitis virus (Australia) (2). Because of antigenic cross-reactivity within this complex, WNV serologic diagnosis requires highly specific assays, such as the plaque-reduction neutralization test (PRNT) (3). We used PRNT to evaluate serum collected from 130 healthy equines (horses and donkeys) in Colombia, where WNV had not been previously reported. These equines were sampled between September 15 and October 29, 2004, in the northern departments of Córdoba and Sucre in the Caribbean region of Colombia. Samples were heat-inactivated and titrated by PRNT for antibodies to WNV, SLEV, and 3 other South American flaviviruses: Rocio, Ilhéus, and Bussuquara. Twelve specimens (9%) from 10 different premises tested positive for WNV (Table). None of these animals had been vaccinated against WNV or had traveled outside of the region. An equine immunoglobulin (Ig) M-capture enzyme-linked immunosorbent assay (ELISA) that used WNV antigen detected anti-WNV IgM in 2 of the 12 specimens, which indicated that some of these infections were relatively recent (probably within 3 months of sampling). The positive findings in both Córdoba and Sucre were corroborated by a WNV-specific blocking ELISA (4). Numerous other samples exhibited flavivirus reactivity

Table. PRNT<sub>90</sub> antibody titers to WNV and other South American flaviviruses for Colombian equine sera\*†

Equine ID‡	Department	Age (y)	WNV	SLEV	ILHV	ROCV	BSQV
3	Córdoba	4	1:40	<1:10	<1:10	<1:10	<1:10
35	Córdoba	5	1:160	<1:10	<1:10	<1:10	<1:10
39§	Córdoba	4	1:40	<1:10	<1:10	<1:10	<1:10
41	Córdoba	6	1:40	<1:10	<1:10	<1:10	<1:10
48	Córdoba	4	1:640	<1:10	<1:10	<1:10	<1:10
76	Sucre	5	1:80	<1:10	<1:10	<1:10	<1:10
85	Sucre	9	1:80	<1:10	<1:10	<1:10	<1:10
94	Sucre	3	1:40	<1:10	<1:10	<1:10	<1:10
101	Sucre	4	1:40	<1:10	<1:10	<1:10	<1:10
109§	Sucre	7	1:160	1:40	1:40	1:10	<1:10
123	Córdoba	6	1:40	<1:10	<1:10	<1:10	<1:10
125	Córdoba	4	1:160	<1:10	<1:10	<1:10	<1:10

\*These 12 specimens were considered positive for WNV infection; a 4-fold WNV PRNT<sub>90</sub> titer compared to that of other flaviviruses was required for a positive determination of previous WNV infection.

†PRNT<sub>90</sub>, 90% plaque reduction neutralization test; WNV, West Nile virus; SLEV, Saint Louis encephalitis virus (South American strain); ILHV, Ilhéus virus; ROCV, Rocio virus; BSQV, Bussuquara virus.

‡All equines were horses except for 76 and 85, which were donkeys.

§Also positive for anti-WNV immunoglobulin M by antibody-capture enzyme-linked immunosorbent assay.

in the neutralization and blocking ELISA assays, mostly because of SLEV. Complete test results from these horses, as well as from Colombian cattle and chickens, will be presented elsewhere.

These serologic data should be considered indirect evidence of WNV activity in Colombia. We encourage Colombian human and animal health authorities to enhance surveillance for human, equine, and avian disease attributable to WNV. Efforts are needed to isolate the virus or detect specific viral RNA to confirm this finding and to identify vectors and vertebrate hosts involved in WNV transmission in Colombia.

#### Acknowledgments

We thank Robert Lanciotti, Janeen Laven, Jason Velez, and Vanesa Otero for technical assistance.

**Salim Mattar,\* Eric Edwards,†  
Jose Laguado,\* Marco González,\*  
Jaime Alvarez,\*  
and Nicholas Komart†**

\*University of Córdoba, Montería, Córdoba, Colombia; and †Centers for Disease Control and Prevention, Fort Collins, Colorado, USA

#### References

1. Komar N. West Nile virus: epidemiology and ecology in North America. *Adv Virus Res.* 2003;61:185–234.
2. Calisher CH, Karabatsos N, Dalrymple JM, Shope RE, Porterfield JS, Westaway EG, et al. Antigenic relationships between flaviviruses as determined by cross-neutralization tests with polyclonal antisera. *J Gen Virol.* 1989;70:37–43.
3. Beaty BJ, Calisher CH, Shope RE. Arboviruses. In: Lennette EH, Lennette DA, Lennette ET, editors. *Diagnostic procedures for viral, rickettsial, and chlamydial infections.* 7th ed. Washington: American Public Health Association; 1995. p. 189–212.
4. Blitvich BJ, Marlenee NL, Hall RA, Calisher CH, Bowen RA, Roehrig JT, et al. Epitope-blocking enzyme-linked immunosorbent assays for the detection of serum antibodies to West Nile virus in multiple avian species. *J Clin Microbiol.* 2003;41:1041–7.

Address for correspondence: Nicholas Komar, Centers for Disease Control and Prevention, PO Box 2087, Fort Collins, CO 80522, USA; fax: 970-221-6476; email: nck6@cdc.gov

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the Centers for Disease Control and Prevention or the institutions with which the authors are affiliated.

## Wild Poliovirus Type 1, Central African Republic

**To the Editor:** In this article we summarize the investigation and response to the reemergence of wild poliovirus (WPV) type 1 in the Central African Republic (CAR) in 2003. Since 2000, reported annual routine vaccination coverage with >3 doses of oral polio vaccine (OPV) has been very low in CAR (<50%); National Immunization Days have been conducted every year since 1996, except in 2002 (1).

From December 2003 to November 2004, the active acute flaccid paralysis surveillance system reported 112 cases of acute flaccid paralysis suspected to be polio-myelitis and 4 deaths (case-fatality ratio 4%). Fecal samples were collected and sent to the Institut Pasteur de Bangui. WPV type 1 (WPV1) was isolated in 30 cases (27%), vaccine polioviruses in 15 cases (5 type 1, 5 type 2, and 6 type 3) (13%), and nonpolio enteroviruses in 18 cases (16%). Epidemiologic investigations showed that 97% of patients with poliomyelitis received <3 doses of OPV and 93% of patients were <5 years of age. Isolates were sent to the National Institute for Virology in Johannesburg, South Africa, for sequencing. All viruses were type 1 and could be traced to common ancestral strains that circulate in disease-endemic reservoirs shared by northern Nigeria and southern Niger (WEAF-B genotype). The first importation occurred in Chad in August 2003 from northeastern Nigeria, and the outbreak spread to the adjacent countries of Cameroon in October 2003 and the CAR in December 2003.

In CAR, the first case occurred in a 19-month-old child living in Ndjoh village north of Bossembélé in Ombela M'Poko. A special mission by the World Health Organization/CAR officer determined that the child had not