

Author affiliations: University of the Philippines–National Institutes of Health, Manila, the Philippines (V.Y. Belizario Jr, F.I.G. Totañes, J.R. Migrño Jr); University of the Philippines College of Public Health, Manila (W.U. de Leon); and National Center for Disease Prevention and Control, Manila (L.Y. Macasaet)

DOI: 10.3201/eid1604.080483

References

1. Cross J, Belizario VY Jr, Capillariasis. In: Murrel KD, Fried B, editors. Food-borne parasitic zoonoses, fish and plant-borne parasites. Vol. 11. In: Black S, Seed RJ, editors. World class parasites. New York: Springer Science and Business Media, LLC; 2007. p. 209–32.
2. Chitwood MB, Velasquez C, Salazar NG. *Capillaria philippinensis* (Nematoda: Trichinellida) from intestine of man in the Philippines. *J Parasitol.* 1968;54:368–71. DOI: 10.2307/3276953
3. Belizario VY Jr, de Leon WU, Esparar DG, Galang JM, Fantone J, Verdadero C. Compostela Valley: a new endemic focus for *Capillariasis philippinensis*. *Southeast Asian J Trop Med Public Health.* 2000;31:478–81.
4. Icao C. Capillariasis report. Interagency Conference on Capillariasis in Zamboanga del Norte. 2008 Feb 21. Dipolog City (the Philippines): Zamboanga del Norte Provincial Health Office; 2008.
5. Alipala J. Philippine Daily Inquirer. 70 dead in parasite infection; whole Zambo village afflicted [cited 2008 Feb 27]. http://services.inquirer.net/print/print.php?article_id=103456
6. World Health Organization. Training manual on the diagnosis of intestinal parasites; 2004. Geneva: The Organization [cited 2008 Mar 7]. http://www.who.int/worm-control/documents/benchaid/en/training-manual_sip98-2.pdf
7. Abramowicz M. Drugs for parasitic infections. *The Medical Letter.* 2004;46:e1–e12.
8. World Health Organization. WHO model prescribing information: drugs used in parasitic diseases, 2nd ed. Geneva: The Organization; 1995.
9. Katipunan Rural Health Unit. Annual report for 2007. Katipunan, Zamboanga del Norte (the Philippines): The Unit; 2007.

Address for correspondence: Vicente Y. Belizario Jr, University of the Philippines–National Institutes of Health, Pedro Gil St, Ermita 1000 Manila, the Philippines; email: vbelizar@yahoo.com

Buruli Ulcer Lesions in HIV-Positive Patient

To the Editor: *Mycobacterium ulcerans* disease (Buruli ulcer) is a neglected and emerging tropical disease (1). It often leads to extensive destruction of skin and soft tissue with the formation of large ulcers (2). In 2004, the World Health Organization (WHO) recommended the combination treatment of rifampin/streptomycin for patients with this disease (3). According to WHO, development of new antimicrobial drug treatment is one of the major advances since the establishment of the Global Buruli Ulcer Initiative (1). Treatment with rifampin/streptomycin for ≥ 4 weeks can inhibit the growth of *M. ulcerans* in preulcerative lesions (4). In other patients, despite 4 weeks of treatment, lesions may deteriorate. Whether this treatment is less efficacious in persons with HIV infection is unknown.

In August 2008, a 35-year-old man was referred to the Medical Centre of the Democratic Republic of Congo for assessment of chronic ulcers. Lesions had appeared 12 months earlier when the patient was living in Kafufu/Luremo, a new focus of Buruli ulcer in Angola (5). Tissue specimens were subjected to Ziehl-Neelsen staining, culture, and PCR. All results were positive for *M. ulcerans*. Histopathologic analysis of formalin-fixed tissue confirmed the diagnosis of active Buruli ulcer. We treated the patient with a combination of rifampin (10 mg/kg/day, orally) and streptomycin (15 mg/kg/day, by intramuscular injection). Wound dressings containing an aqueous solution of chloramine/metronidazole/nitrofurantoin were changed daily (6). For logistic reasons, surgery (large excision) under general anesthesia was not possible.

Characteristics of the patient are shown in the online Technical Appendix (www.cdc.gov/EID/content/16/4/

738-Techapp.pdf). At the start of treatment, the patient had a large ulcer on the right leg and thigh, a nodule 2 cm in diameter on the left thigh, and a plaque 8 cm in diameter on the left thigh. After 2 weeks of treatment, the size of the large ulcer had increased. After 4 weeks, the nodule became an ulcer 6 cm in diameter, and the plaque became a large ulcer 15 cm in diameter with a satellite ulcer 2 cm in diameter. After 8 weeks, we observed enlargement of all lesions and the appearance of an ulcer on the left wrist. Treatment was continued for an additional 4 weeks (total 12 weeks). Radiologic investigation did not disclose any bone destruction.

The patient was positive for HIV by the Determine HIV-1/2 test (Abbott Laboratories, Dainabot Co. Ltd., Tokyo, Japan), the Uni-Gold HIV test (Trinity Biotech PLC, Bray, Ireland), and the Genie II HIV-1/HIV-2 test (Bio-Rad, Marnes-la-Coquette, France). Results of PCR for *M. ulcerans* and Ziehl-Neelsen staining were positive for all specimens obtained during the 8 weeks of initial treatment. The patient died 2 weeks after treatment ended, just when antiretroviral treatment had been scheduled to begin.

Although the patient did not respond clinically to treatment with rifampin/streptomycin, whether the treatment also failed microbiologically is more difficult to prove. Results of PCRs performed during treatment remained positive. However, PCR does not differentiate between living and dead *M. ulcerans* bacteria. Therefore, our positive results suggest, but do not prove, treatment failure. The positive culture after 2 weeks of treatment also suggests treatment failure but cultures obtained at 4 and 8 weeks were contaminated. However, culturing *M. ulcerans* bacteria is difficult, especially if samples must be transported (7).

Patients with Buruli ulcer may also be infected with HIV. In a study conducted during January 2002–Au-

gust 2003 that compared HIV prevalence in 426 patients with Buruli ulcer and 613 controls in southern Benin, HIV prevalence among patients with Buruli ulcer was higher (2.6%, 11/426) than among controls (0.3%, 2/613) (odds ratio 8.1) (8). However, none of these reported HIV-positive patients with Buruli ulcer were treated with rifampin/streptomycin and antiretroviral therapy (8).

A study of 224 patients with Buruli ulcer in Benin that evaluated the WHO-recommended regimen of 8 weeks of treatment with rifampin/streptomycin showed promising results (9). Chemotherapy alone was successful in achieving a cure rate of 47% of patients and was effective against ulcers <5 cm in diameter (9). However, HIV testing was not performed in this study. In Spain, an HIV-positive patient with aggressive, multifocal Buruli ulcer and osteomyelitis was cured by surgery, broad-spectrum antimicrobial drugs (not rifampin/streptomycin), and antiretroviral drugs (10). Relapse was not reported in this study at 6-months follow-up.

For control of Buruli ulcer in HIV-positive patients, patients should be treated with rifampin/streptomycin and antiretroviral therapy to stimulate their immunity. Our report emphasizes the urgent need to evaluate treatment of HIV-positive patients infected with Buruli ulcer with rifampin/streptomycin and antiretroviral drugs.

This study was supported by the Directorate-General for Development and Cooperation (DGDC), Brussels, Belgium. K.K. was supported by a grant from DGDC.

**Kapay Kibadi,
Robert Colebunders,
Jean-Jacques
Muyembe-Tamfum,
Wayne M. Meyers,
and Françoise Portaels**

Author affiliations: Institute of Tropical Medicine, Antwerp, Belgium (K. Kibadi, R. Colebunders, F. Portaels); Institut National de Recherche Biomédicale, Kinshasa, Democratic Republic of Congo (K. Kibadi, J.-J. Muyembe-Tamfum); University of Kinshasa, Kinshasa (K. Kibadi, J.-J. Muyembe-Tamfum); University of Antwerp, Antwerp (R. Colebunders); and Armed Forces Institute of Pathology, Washington, DC, USA (W.M. Meyers)

DOI: 10.3201/eid1604.091343

References

1. World Health Organization. Buruli ulcer: progress report. *Wkly Epidemiol Rec.* 2008;83:145–56.
2. Portaels F, Silva MT, Meyers WM. Buruli ulcer. *Clin Dermatol.* 2009;27:291–305. DOI: 10.1016/j.clindermatol.2008.09.021
3. World Health Organization. Provisional guidance on the role of specific antibiotics in the management of *Mycobacterium ulcerans* disease (Buruli ulcer) WHO/CDS/CPE/GBUI.10; 2004 [cited 2009 Dec 23]. <http://www.who.int/buruli/information/antibiotics/en/index.html>
4. Etuaful S, Carbonnelle B, Grosset J, Lucas S, Horsfield C, Phillips R, et al. Efficacy of the combination rifampin-streptomycin in preventing growth of *Mycobacterium ulcerans* in early lesions of Buruli ulcer in humans. *Antimicrob Agents Chemother.* 2005;49:3182–6. DOI: 10.1128/AAC.49.8.3182-3186.2005
5. Kibadi K, Panda M, Tamfum JJ, Fraga AG, Longatto Filho A, Anyo G, et al. New foci of Buruli ulcer, Angola and Democratic Republic of Congo. *Emerg Infect Dis.* 2008;14:1790–2. DOI: 10.3201/eid1411.071649
6. Kibadi K. *Mycobacterium ulcerans* disease (Buruli ulcer): surgical treatment of 102 cases in the Democratic Republic of Congo [in French]. *Med Trop (Mars).* 2005;65:444–8.
7. Eddyani M, Debacker M, Martin A, Aguiar J, Johnson CR, Uwizeye C, et al. Primary culture of *Mycobacterium ulcerans* from human tissue specimens after storage in semi-solid transport medium. *J Clin Microbiol.* 2008;46:69–72. DOI: 10.1128/JCM.00301-07
8. Johnson RC, Nackers F, Glynn JR, de Biurrun Bakedano E, Zinsou C, Aguiar J, et al. Association of HIV infection and *Mycobacterium ulcerans* disease in Benin. *AIDS.* 2008;22:901–3. DOI: 10.1097/QAD.0b013e3282f7690a
9. Chauty A, Ardant MF, Adeye A, Euverte H, Guédénon A, Johnson C, et al. Promising clinical efficacy of streptomycin-rifampin combination for treatment of Buruli ulcer (*Mycobacterium ulcerans* disease). *Antimicrob Agents Chemother.* 2007;51:4029–35. DOI: 10.1128/AAC.00175-07
10. Toll A, Gallardo F, Ferran M, Gilaberte M, Iglesias M, Gimeno JL, et al. Aggressive multifocal Buruli ulcer with associated osteomyelitis in an HIV-positive patient. *Clin Exp Dermatol.* 2005;30:649–51. DOI: 10.1111/j.1365-2230.2005.01892.x

Address for correspondence: Françoise Portaels, Mycobacteriology Unit, Institute of Tropical Medicine, Nationalestraat 155, B-2000 Antwerp, Belgium; email: portaels@itg.be

Hantavirus Pulmonary Syndrome, French Guiana




To the Editor: Hantaviruses are rodent-borne negative-sense RNA viruses belonging to the *Bunyaviridae* family, genus *Hantavirus*. Since the first report of a hantavirus in 1993 in the United States (1), different viruses belonging to this genus have been reported in the Americas (2–5). These New World viruses are responsible for a disease called hantavirus pulmonary syndrome (HPS), a respiratory illness caused by the inhalation of dust contaminated by rodent feces or urine containing the virus (6–8).


Until recently, no information was available concerning the presence of hantaviruses in French Guiana, a French overseas department (administrative unit) in South America. Nevertheless, the description of atypical pneumonia cases not related to any known etiologic agent and the identification of hantavirus reservoirs in neighboring countries led us to con-

Buruli Ulcer Lesions in HIV-Positive Patient

Technical Appendix

Characteristics of HIV-positive patient with Buruli ulcer during treatment with rifampin/streptomycin, Democratic Republic of Congo*

Period of treatment	Lesions	Clinical features	Results of microbiologic and histologic analyses
Day 1 (start of treatment)		Large ulcer (right leg and thigh), nodule 2 cm in diameter (left thigh), and plaque 8 cm in diameter (left thigh)	ZN staining (ATS) (1) 2+, PCR positive, culture contaminated, active Buruli ulcer lesions
2 weeks		Increase in size of large ulcer (right leg and thigh)	ZN staining (ATS) 4+, PCR positive, culture positive, ND
4 weeks		Nodule 2 cm in diameter (left thigh) becomes an ulcer 6 cm in diameter, plaque 8 cm in diameter (left thigh) becomes a large ulcer 15 cm in diameter, and appearance of an ulcer 2 cm in diameter	ZN (ATS) 1+, PCR positive, culture contaminated, ND

8 weeks		Increase in size of all lesions and appearance of an ulcer on the left wrist	ZN (ATS) 4+, PCR positive, culture contaminated, ND
---------	---	--	---

*ZN, Ziehl-Neelsen; ATS, American Thoracic Society; ND, histologic analysis not done.

Reference

1. American Thoracic Society. Diagnostic standards and classification of tuberculosis and other mycobacterial diseases (14th edition). Am Rev Respir Dis. 1981;123:343–58. [PubMed](#)