still had positive IgM or IgG antibody responses to *B. burgdorferi* [2]. Although the level of antibody response to *B. burgdorferi* decreases after successful antibiotic therapy, positive IgM or IgG responses to the spirochete may persist at low levels for years after antibiotic treatment [14]. This immune memory does not indicate active spirochetal infection.

We concluded, as have others [10, 11, 15, 16], that in patients with disseminated or persistent *B. burgdorferi* infection, serologic testing with the 2-tier approach of ELISA and Western blot is highly sensitive and specific for support of the diagnosis of Lyme disease. Such testing does not distinguish accurately between active and past infection.

**Acknowledgment**

Potential conflicts of interest. A.C.S.: no conflicts.

Allen C. Steere

Center for Immunology and Inflammatory Diseases, Division of Rheumatology, Allergy and Immunology, Massachusetts General Hospital, Harvard Medical School, Boston

**References**


Reprints or correspondence: Dr. Allan C. Steere, Massachusetts General Hospital, Div. of Rheumatology, 149 13th St., Room 8301, Charlestown, MA 02129 (asteere@partners.org).

**Clinical Infectious Diseases 2008;47:1113–30**

© 2008 by the Infectious Diseases Society of America. All rights reserved. 1058-4838/2008/0024$15.00 DOI: 10.1086/592122

**On the Greatly Exaggerated Reports of the Death of Infectious Diseases**

To the Editor—Dr. Brad Spellberg recently commented on the inability to verify a quote attributed to the US Surgeon General, William H. Stewart—that it was “time to close the book on infectious diseases, and declare the war against pestilence won” [1, 2]. Spellberg asked for “quotation[s] with citations from verifiable sources” (p. 294) regarding the greatly exaggerated reports of the death of infectious diseases. In 1951, Sir Frank MacFarlane Burnet, Director of the Walter and Eliza Hall Institute of Medical Research and co-winner of the Nobel Prize in Medicine in 1960 (along with Sir Peter Medawar) for the discovery of immunological tolerance, wrote the following:

If one looks around the medical scene in North America or Australia, the most important current change he sees is the rapidly diminishing importance of infectious diseases. The fever hospitals are vanishing or being turned to other uses. With full use of the knowledge that we already possess, the effective control of every important infectious disease, with the one outstanding exception of poliomyelitis, is possible [3, p. 51].

This material was quoted in the May 2001 issue of *Scientific American* in the section entitled “50, 100, and 150 Years Ago in *Scientific American*” and was cited in the preface to the textbook *Immunology, Infection and Immunity* [4]. A massive reduction in the incidence of polio occurred during the 57 years that followed this comment; replication of these results with other major infectious diseases would be most welcome.

Even after winning the Nobel Prize, Dr. Burnet wrote the following in 1962: “One can think of the middle of the twentieth century as the end of one of the most important social revolutions in history, the virtual elimination of the infectious diseases as a significant factor in social life” [5, p. 18; 6].

Burnet and Medawar are clearly acknowledged as scientific giants in the field of immunology, establishing a bedrock principles that endures to this day. Moreover, I find it personally comforting that even after winning the Nobel Prize or being rec-
Mother-to-Child Transmission Risk Is Increased among HIV-Infected Pregnant Women in Ukraine with Serological Test Results Positive for Syphilis

To the Editor—Although syphilis coinfection is a known risk factor for heterosexual transmission of human immunodeficiency virus (HIV) [1, 2], its role in mother-to-child transmission (MTCT) is unclear [3–5]. We investigated the impact of maternal serological test results positive for syphilis on MTCT in the Ukrainian sites of the European Collaborative Study, a cohort study of HIV-infected pregnant women and their children; full methods are described elsewhere [6]. The mother-child pairs in this analysis came from a nested substudy of sexually transmitted infection [7]: for mother–child pairs enrolled from January 2003 through October 2005, sexually transmitted infection test results were extracted from antenatal records and were linked to the prospective European Collaborative Study database; subsequently, 1 center started prospective collection of all antenatal sexually transmitted infection test results, and mother-child pairs enrolled at this center from October 2005 were also included. Antenatal serological screening was performed with nontreponemal tests at pregnancy registration and was repeated in the third trimester, with confirmatory testing using treponemal tests, according to national policy. Infected women and their infants were treated with penicillin.

Logistic regression was used to investigate MTCT risk factors. Infants with persistence of HIV antibody beyond 18 months of age and/or a positive HIV PCR test result were considered to be HIV infected; infants who were HIV antibody negative and/or who had 2 negative PCR results were classified as uninfected [6]. Variables considered in the multivariable model were maternal syphilis serological test results, antiretroviral prophylaxis, elective cesarean delivery, and premature delivery (i.e., delivery at <37 completed gestational weeks), and variables were retained on the basis of Akaike’s Information Criterion [6].

There were 521 mother–child pairs with known infant HIV infection status. All women were born in Ukraine, the median maternal age was 25.0 years (range, 16.1–43.4 years), and 346 (66%) were nulliparous. Injection drug use history was reported by 105 (20%) of 516 women with this information available; 210 (40%) of 521 women reported having had a sexual partner who was an injection drug user. Overall, 3.5% of pregnant women (95% CI, 2.1%–5.4%) had serological test results that were positive for syphilis, increasing to 6 (5.7%) of 105 (95% CI, 2.1%–12.0%) women with a history of injection drug use (a difference that was not statistically significant). Antenatal CD4 cell counts were available for only 163 women (31%) because of limited laboratory capacity. Median CD4 cell count was 514 cells/mm³ (interquartile range, 350–700 cell/mm³) overall, with no difference by syphilis status. The overall HIV MTCT rate was 5.8% (95% CI, 3.9%–8.1%) (30 of 521 mother–child pairs) and was statistically significantly higher among women who were seropositive for syphilis (χ², 6.4; P = .011) (table 1). Having antenatal serological test results that were positive for syphilis was associated with a 5-fold increased MTCT risk univariably and a nearly 4.5-fold increased risk in the adjusted model (table 1).

Our study provides the first evidence of an association between maternal syphilis and MTCT risk in Eastern Europe. A limitation of our study is the lack of maternal HIV RNA quantification in our population, which prevented us from adjusting for this important risk factor for MTCT [6]. However, in a study from Malawi [3], maternal syphilis coinfection was associated with a 2.6-fold increased risk of in utero HIV transmission univariably and a 2.7-fold increased risk independent of maternal viral load. Elimination of congenital syphilis and the virtual elimination of HIV transmission to infants are key public health goals [8–9], and our findings underscore the need for integration of antenatal syphilis screening and treatment programs with MTCT prevention programs.

Acknowledgments

We acknowledge the contribution of Dr. Megan Landes to the coordination of the nested sexually transmitted infection study. Additional collaborators included Y. Khomout (Perinatal Prevention of AIDS Initiative, Odessa, Ukraine), T. Kaveeva, A. Shelyag, S. Servetsky (Odessa Regional Centre for HIV/AIDS, Odessa, Ukraine), G. Kisleva, and O. A. Zalata (AIDS Centre of Crimea, Simferopol, Crimean Republic, Ukraine).

Financial support. The European Collaborative Study is a coordination action of the European Commission (Paediatric European Network Treatment AIDS/European Collaborative Study 018865). This study was performed at Great Expectations, an ongoing observational study of HIV-infected pregnant women and their infants in Eastern Europe. The study is supported by the European Commission, Paediatric European Network Treatment AIDS (PENTA). The nested substudy is supported by the European Commission, Paediatric European Network Treatment AIDS (PENTA).