

**Table 1. Rates of HCV Seroconversion in Patients Undergoing Cardiac Surgery Who Received Transfusions, According to Whether Screening for Surrogate Markers Was Performed.**

PERIOD	TYPE OF DONOR SCREENING*	NO. WHO SERO-CONVERTED	UNITS TRANSFUSED	SEROCONVERSION RATE/UNIT TRANSFUSED (%)
1/85-9/86	Routine	41	7,853	0.52
10/86-12/87	Routine + SM	51	14,357	0.35
1/88-12/88	Routine + SM	98	25,224	0.39
1/89-5/90	Routine + SM	159	44,832	0.35

\*SM denotes surrogate-marker testing.

Our data show that there was an abrupt decrease in the rate of post-transfusion HCV infection when surrogate-marker testing was introduced in October 1986. However, there was no further change in the rate until May 1990, when serologic testing for antibodies to HCV was introduced.

We are aware that other countries did not institute surrogate-marker testing. Several of those countries, however, including Canada, Japan, and Spain, have reported higher rates of post-transfusion hepatitis than the United States for the interval from 1986 through 1989. In 1985 and 1986, we detected a rate of post-transfusion HCV infection of 4.49 per 100 patients receiving transfusions; the reported rate of post-transfusion hepatitis in Canada was 9.2 percent.<sup>1</sup> Similarly high rates have been reported in Japan<sup>2</sup> and Spain.<sup>3</sup>

A separate, very important question is whether surrogate-marker screening should be continued, since it is now possible to test for antibodies to HCV. Perhaps a study such as that described by Blajchman et al. could provide an estimate of the current efficacy of surrogate-marker screening.

KENRAD E. NELSON, M.D.  
FARUQUE AHMED, M.B.B.S., M.P.H.  
PAUL NESS, M.D.

Baltimore, MD 21205

Johns Hopkins  
Medical Institutions

Boston, MA 02115

JAMES G. DONAHUE, D.V.M., PH.D.  
Channing Laboratory

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*To the Editor:* There is no question that the incidence of post-transfusion non-A, non-B hepatitis decreased significantly in the United States, coincident with the widespread implementation of surrogate-marker screening. This has been demonstrated not only by the serologic studies of Donahue et al.<sup>1</sup> but also by an evaluation of trends in the reporting of post-transfusion hepatitis to the American Red Cross<sup>2</sup> and by surveillance studies conducted by the Centers for Disease Control and Prevention.<sup>3</sup> Interestingly, the decrease seemed to occur somewhat earlier than would have been expected had it been solely due to the effects of the testing. Chambers and Popovsky showed that in Massachusetts there was a significant decline in community reporting rates for hepatitis B and non-A, non-B hepatitis during the period from 1985 through 1988.<sup>4</sup> The decline in the number of cases

of post-transfusion non-A, non-B hepatitis reported to the Red Cross from Massachusetts and Maine paralleled the overall decline that occurred from 1985 to 1986, after which there was a further decrease beyond that for overall reporting. This decrease was attributed to the additional effect of surrogate-marker testing.<sup>4</sup>

The observation of Blajchman et al. thus supports the concept that there was indeed a decrease in the incidence of post-transfusion non-A, non-B hepatitis that was not associated with testing alone. Until the Canadian study is fully analyzed, however, it will not be possible to establish the independent contributions of factors other than surrogate-marker testing. Although the data from Canada may not be fully comparable to those from the United States, I look forward to the publication of these data with considerable interest. Perhaps of more importance will be the light that should be shed on the critical question of whether surrogate-marker testing continues to contribute to transfusion safety, given the efficacy of current tests for antibodies to HCV.

ROGER Y. DODD, PH.D.  
American Red Cross

Rockville, MD 20878

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### FALSE POSITIVE TESTS FOR HIV IN A WOMAN WITH LUPUS AND RENAL FAILURE

*To the Editor:* We recently encountered the uncommon situation of a false positive test for human immunodeficiency virus type 1 (HIV-1) during the pretransplantation evaluation of a 32-year-old Haitian woman with systemic lupus erythematosus and end-stage renal disease. Her condition had been stable with the use of hemodialysis for the previous 6 years, and she had resided in the United States for 15 years. Serologic tests were negative for cytomegalovirus, Epstein-Barr virus, herpes, toxoplasmosis, and hepatitis. Screening tests for syphilis were also negative. Both she and her husband were monogamous, with no history of drug abuse or blood transfusions. She did not have any AIDS-defining illnesses. Screening for HIV-1 showed strongly seropositive results by enzyme-linked immunosorbent assay (ELISA), which was performed three times at six-week intervals, and by Western blotting for the following antibodies: p17, p24, p31 gp41, p51, p55, p66, gp120, and gp160. The patient's absolute CD4+ counts were 130 per cubic millimeter; the total T-cell and CD8 counts were normal. She vehemently denied any risk factors for HIV infection and had heard at a lupus support group that she could test positive for HIV-1 as a result of a "universal antibody." Since she very much wanted a renal transplant, we extended the evaluation to include p24 antigen testing, the polymerase chain reaction (PCR) (performed at the New York Blood Center), and viral culture (done at Mount Sinai Medical Center, New York), all of which were negative. We speculate that the false positive test may have been due to the presence of autoantibodies related to the systemic lupus erythematosus. The patient is now on the waiting list for a kidney transplant.

Autoantibodies are frequently found in patients with systemic lupus erythematosus. These autoantibodies often lead to false positive results on syphilis (Venereal Disease Research Laboratory) tests or to abnormal results on a coagulation test (with a prolonged partial-thromboplastin time) because of the presence of serum cardiolipin.<sup>1</sup> Leo-Amador et al.<sup>2</sup> reported the results of serologic tests in 70 patients with systemic lupus erythematosus. Four were positive for HIV-1 by ELISA, but on repeat testing only two remained positive. They did not perform PCR or viral culture on specimens from the two patients with consistently positive results.

Our patient with systemic lupus erythematosus and end-stage renal disease clearly had a false positive test for HIV-1. We reviewed our files for the past five years for other patients with systemic lupus erythematosus who were evaluated for kidney transplantation. None of them had a false positive test for HIV-1. We recommend that patients with systemic lupus erythematosus and end-stage renal disease who have a positive result on ELISA and Western blotting undergo further study, including PCR and culture for HIV-1.

R. JINDAL, M.D., F.R.C.S.(ED.), M.Sc.  
M. SOLOMON, R.N.  
L. BURROWS, M.D.

New York, NY 10029 Mount Sinai School of Medicine

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### PNEUMOCOCCAL APPENDICITIS IN A MAN WITH HIV INFECTION

*To the Editor:* Patients infected with HIV have increased susceptibility to infection with *Streptococcus pneumoniae*. A 28-year-old man with hemophilia A was recently admitted to our hospital with a two-day history of malaise, sweats, and pain in the right lower quadrant. He was infected with HIV and had a CD4<sup>+</sup> cell count of 390 per cubic millimeter. He received one dose of clindamycin and gentamicin before being taken to the operating room, where a gangrenous appendix measuring 6 by 3 cm was removed. Treatment with

imipenem was begun, and the patient recovered uneventfully. Cultures of blood were negative. The intraoperative cultures yielded a heavy growth of *S. pneumoniae* serogroup 19. Anaerobic plates showed no growth. A probable contaminant, propionibacterium species, was isolated only from a broth culture. Pathological examination revealed acute appendicitis with a necrotic appendiceal wall; a tissue Gram's stain demonstrated gram-positive cocci.

Perforating gangrenous appendicitis is rarely a unimicrobial process. One study reported an average of 10.2 different organisms per specimen; *Bacteroides fragilis* and *Escherichia coli* were isolated most commonly.<sup>1</sup> *S. pneumoniae* may cause spontaneous peritonitis in children with the nephrotic syndrome and secondary hypogammaglobulinemia.<sup>2</sup> In adults, there are rare reports of spontaneous or secondary peritonitis caused by *S. pneumoniae*.<sup>3</sup>

HIV-infected patients are at an increased risk for pneumococcal pneumonia and pneumococcal bacteremia.<sup>4</sup> Most HIV-positive patients with pneumococcal bacteremia present with pneumonia (89 percent); however, there have been reports of pneumococcal meningitis, sinusitis, pericarditis, endocarditis, brain abscess, and mediastinitis.<sup>5</sup> Multiple defects in immunity have been demonstrated in these patients, including low base-line levels of IgG to pneumococcal polysaccharide. It has been suggested that patients with pneumococcal bacteremia be evaluated for HIV infection, especially in the absence of other underlying diseases.

We have not found other reports of appendicitis caused by *S. pneumoniae*. This presentation underscores the vulnerability of HIV-infected patients to infection with this organism.

JENNIFER A. CLARK, M.D.  
MARK A. KEROACK, M.D.  
University of Massachusetts  
Medical Center

Worcester, MA 01655

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