False-Positive HIV Antibody Test Following Alpha-Interferon Therapy in a Chronic Hemodialysis Patient

C.	Cem	Sungur ^a
T.	Tekin	Akpolat ^a
C.	Cumhur	Ozkuyumcu ^b
U.	Unal	Yasavul ^a
C.	Cetin	Turgan ^a
S.	Sali	Caglar ^a

^aNephrology Unit and ^bDepartment of Microbiology and Laboratory Medicine, Hacettepe University School of Medicine, Ankara, Turkey

Cem Sungur, MD, PK (PO Box) 272, TR-06693 Kavaklıdere-Ankara (Turkey)

Dear Sir,

Because of their transfusion requirements, chronic hemodialysis patients are at increased risk for human immunodeficiency virus (HIV) infection, despite effective screening tests and increasing use of human recombinant erythropoietin therapy [1]. According to our infection control policy, chronic hemodialysis patients in our unit are screened for HIV infection every 6 months. On the other hand, it is known that chronic renal failure is a common cause of false-positive ELISA testing for HIV antibody and the results should be interpreted appropriately [2]. We report on a dialysis patient whose ELISA test for HIV-Ab (Abbott) became positive after 6 months of treatment with α -interferon for chronic hepatitis, but a confirmatory Western blot test excluded a true HIV infection.

The patient is a 54-year-old engineer who developed end-stage renal failure due to glomerulonephritis. He was admitted to our dialysis unit in 1991 and has been dialyzed 3 times weekly since then. At the initiation of renal replacement therapy, he received 2 units of packed red blood cells. Erythropoietin therapy was sufficient to maintain the hemoglobin and hematocrit levels within the desired limits and the patient was not transfused again. His HIV-Ab test was negative at the initiation of dialysis and his control tests were done at 6-month intervals. He developed acute hepatitis C in December 1991 and, as his ALT and AST levels showed a fluctuating elevation of longer than 6 months, he underwent percutaneous liver biopsy which revealed chronic active hepatitis. He was prescribed α -interferon, 3 million units, subcutaneously three times a week for 6 months.

Although hepatitis is considered among the causes of a false-positive HIV test, he remained HIV-Ab negative before this treatment. Another routine screening test at the end of this period was positive for HIV-Ab. The patient denied any of the risk factors for HIV infection and a control ELISA test was again positive. A Western blot analysis in the reference laboratory proved that this was a false-positive ELISA result.

Hemodialysis patients are prone to several types of viral hepatitis and α -interferon is the treatment of choice in chronic cases when indicated [3]. Immunologic alterations induced by α -interferon, such as activation of macrophages, monocytes and induction of antigen

expression on cell surfaces, may be responsible for this false-positive ELISA test [4]. We suggest that α -interferon therapy may be another cause of false-positive ELISA testing for HIV-Ab in chronic hemodialysis patients.

References

Reiser IW, Shapiro WB, Porush JG: The incidence and epidemiology of human immunodeficiency virus infection in 220 patients treated in an inner-city hemodialysis center. *Am J Kidney Dis* 1990;16:26-31.

Centers for Disease Control: Update: Serologic testing for antibody to human immunodeficiency virus. *MMWR* 1988;259:2574-2579. Dorr RT: Interferon- α in malignant and viral diseases: A review. *Drugs* 1993;45:177-211. Rosa R, Fellous M: The effect of gamma-inter-feron on MHC antigens. *Immunol Today* 1984;5:261-262.