Acquired Immunodeficiency Syndrome in Dialysis

A.		Franco
J.		Luño
R.		Perez
J.		Tardio ^a
F.		Anaya

Service of Nephrology and ^aPathology, Hospital General G. Marañón, Madrid, Spain

Dr. R. Perez, Service of Nephrology, Hospital General G. Marañón, c/Dr. Equerdo 46, E-28007 Madrid

Dear Sir,

At the present time, the acquired immunodeficiency syndrome (AIDS) is one of the most important problems for medical practitioners. This syndrome was first recognized in 1981 [1, 2] and reported as a viral disease in 1983 [3]. It is caused by a retrovirus called human immunodeficiency virus (HIV) [4–6] which infects T helper lymphocytes, causing T dysfunction and depletion resulting in opportunistic infections, Kaposi's sarcoma and other neoplasms [5–8]. Primary methods of transmission are by sexual contact, blood products, intravenous inoculations with contaminated needles or in utero infection, homosexual men, intravenous drug users and hemophiliacs being the classic risk groups [6, 7, 9, 10].

It is possible that patients undergoing hemodialysis treatment (HD), who need multiple transfusions for anemia or preparation for renal transplantation, run a higher risk of acquiring the infection [11, 12]. However, there is no evidence to date that AIDS has been contracted by a patient during HD, which could depend on the low infectivity and lability of HIV [13–15]. Renal transplantation from infected donors could be another vehicle of transmission.

HIV carriers on HD could either have been infected by the previously described mechanisms or they would be Ac HIV+ when starting on HD, belonging to the classic risk groups [12, 16, 17]. Several authors have reported the incidence of seropositivity to be less than 1% among those hemodialyzed patients who do not belong to the classic risk groups [11, 13, 18].

We have no information about any patient on HD without classic risk factors, who has acquired AIDS. We report 1 patient on HD who presents AIDS without any risk factor except that of being a polytransfused patient during HD.

Fig. 1. P. carinii cysts within the lumen of a lung alveolus (Grocott 1250).

She was a 37-year-old female, no intravenous drug addict, without sexual risk factors, on HD for chronic glomerulonephritis since 1971. She was nephrectomized because of noncontrolled hypertension on HD and parathyroidectomized in 1980. She received about 45 blood transfusions during her HD period and was not transplanted.

In 1986 this patient presented weakness, anorexia, weight loss and intermittent fever without any specific laboratory findings. She received antituberculous chemotherapy without a clear response. In June 1987, we tested the patients in our HD unit for the first time for HIV antibody and this patient was HIV+ (confirmed by Western blot). The HIV incidence in our dialysis population without classic risk factors was 2.1% (3/140). Cellular immunologic studies

performed in August were: OKT4 173 lymphocytes /mm³ (normal > 482), OKT4/OKT8 = 0.18 (normal 1.1–2.9). In September, she presented one

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abrupt onset of high spiking fever, dyspnea and nonproductive cough. The chest X-ray revealed a diffuse interstitial infiltrate. The patient had a progressive clinical deterioration and an open lung biopsy was performed demonstrating a *Pneumocystis carinii* pneumonia (fig. 1). Diagnosis of AIDS was made [19].

The percentage of HIV+ patients on HD may be important in relation to the random population, at least in our experience. All necessary precautions should be utilized with transfusional and transplant politics. The evolution of these HIV+ cases to AIDS patients could be similar to that of the HIV+ belonging to the classic risk groups.

References

- Centers for Disease Control: *Pneumocystis pneumonia*. Los Angeles. Morbid. Mortal. Wkly Rep. 50:250–252 (1981).
- Centers for Disease Control: *Kaposi's sarcoma and Pneumocystis pneumonia among homosexual men. New York City and California*. Morbid. Mortal. Wkly Rep. 25:305–308 (1981).
- Barre-Sinoussi, F.; Chermann, J.C.; Rey, F.; Nugeyre, M.T.; Chamaret, J.; Gruest, J.; Dautet, C.; Axler-Blin, C.: Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immunodeficiency syndrome (AIDS). *Science* 220: 868–871 (1983).
- Levy, J.A.; Hoffman, A.D.; Kraner, S.M.; Landis, J.A.; Shimabukuro, J.M.; D'Schiro, L.S.: Isolation of lymphocytopathic retroviruses from San Francisco patients with AIDS. *Science* 225: 840–842 (1984).
- Gallo, R.C.; Salahuddin, S.Z.; Popovic, M.: Frequent detection and isolation of cytopathic retroviruses (HTLV-III) from patients with AIDS and at risk for AIDS. *Science* 224: 500–503 (1984).
- Gallo, R.C.; Wong-staal, F.: A human T-lymphotropic retrovirus (HTLV-III) as the cause of the acquired immunodeficiency syndrome. *Ann. intern. Med.* 705:679–689 (1985).
- Fauci, A.S.: The acquired immunodeficiency syndrome: an update. *Ann. intern. Med.* 702:800–813 (1985).
- Armstrong, D.; Gold, J.W.; Dryjansky, J.; Whimbey, E.; Polsky, B.; Hawkins, C.; Brown, A.E.; Bernard, E.; Kiehn, T.N.: Treatment of infections in patients with the acquired immunodeficiency syndrome. *Ann. intern. Med.* 705:738–743 (1985).
- Curran, J.W.: The epidemiology and prevention of the acquired immunodeficiency syndrome. *Ann. intern. Med.* 705: 657–662 (1985).
- Friedland, G.H.; Klein, R.S.: Transmission of the human immunodeficiency virus. *New Engl. J. Med.* 577:1125–1135 (1987).
- Peterman, T.A.; Lang, G.R.; Mircos, N.S.; Solomon, J.L.; Schable, C.A.; Feorino, P.M.; Britz, J.A.; Allen, J.R.: HTLV-III/LAV infection in hemodialysis patients. *J. Am. med. Ass.* 255:2324–2326 (1986).
- Robles, R.; Lopez-Gomez, J.M.; Muiño, A.; Altozano, J.G.; Valderrabano, F.: Dialysis in AIDS patients. A new problem. *Nephron* 44:375–376 (1986).
- Poole C.L.; Johnston, D.O.; Freer, C.; Morrison, A.; Westervelt, F.: HTLV studies in ESRD patients. *Abstr. natn. Kidney Fdn* 75: 15 (1985).

Humphreys, M.H.; Schoenfeld, P.Y.: Renal complications in patients with the acquired immunodeficiency syndrome AIDS. *Am. J. Nephrol.* 7:1-7 (1987).

National Association of Patients on Hemodialysis and Transplantation: AIDS guidelines for the Renal Community. *Dial. Transplant.* 75:267(1986).

Rao, T.K.S.; Friedman, E.A.; Nicastri, A.D.: The types of renal disease in the acquired immunodeficiency syndrome. *New Engl. J. Med.* 576:1062-1068 (1987).

Lopez-Gomez, J.M.; Vinuesa, M.G.; Barrio, V.; Niembro, E.; Grau, T.; Alvarez, A.; Franco, A.; Valderrabano, F.: Renal involvement due to heroin addiction. *Proc. Eur. Dial. Transplant Ass.* 22:778-783 (1985).

De Rossi, A.; Vertolli, U.; Romagnoli, G.; Bertoli, M.; Dalla-Gassa, O.; Chieco-Bianchi, L.: LAV/HTLV-III and HTLV-I antibodies in hemodialysis patients. *Nephron* 44: 377-378 (1986).