CASE REPORT

Human Immunodeficiency Virus Infection in Recipients of Living Unrelated Donor Renal Transplants — A Report of 4 Cases

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Summary

Four cases of Human Immunodeficiency Virus (HIV-1) infection, probably following living unrelated donor renal transplantation done in India, are reported. One of them subsequently developed Acquired Immunodeficiency Syndrome (AIDS).

Key words: HIV infection, renal transplants

Introduction

In 1991, there were 186 Malaysians with living unrelated donor renal transplants on follow-up in the general hospitals of Kuala Lumpur, Johor Baru, Penang and Ipoh.

HIV infection following renal transplantation has not been previously described in Malaysia. It has been reported in other Asian countries like Singapore and Oman[1].

As of December 1991, there were 65 living unrelated donor renal transplant recipients on follow-up in Hospital Sultanah Aminah, Johor Baru (HSAJB). These patients were screened for HIV antibodies from July 1991, with their consent. Three of them were HIV antibody positive. The fourth patient was detected in Kuala Lumpur General Hospital.

Case Report 1

This 53 year old man with end stage renal failure had a history of analgesic abuse, and ultrasound showed small shrunken kidneys. He was tranfused 1 pint of blood for anaemia in a district hospital in Johor before admission here. The blood had been screened and was negative for anti-HIV-1 by ELISA (enzyme-linked immunosorbent assay — Wellcozyme HIV-1).

Peritoneal dialysis was performed but the patient subsequently defaulted follow-up. No anti-HIV test was done then.

In the social history he said that he was monogamous, having sexual intercourse only with his wife. He was not homosexual and not an intravenous drug user.

He was taken to Madras, India, by a middleman. An anteriovenous shunt, then arteriovenous fistula was done and he had about 30 hemodialyses there. In October 1990, a living unrelated donor renal transplant was done with 4 pints of blood transfused.

He was well until July 1991, when he developed herpes zoster of the ophthalmic division of the left trigeminal nerve and was given a course of oral acyclovir. ELISA test (Wellcozyme HIV-1) done in HSAJB was repeatedly positive for anti-HIV-1. The Western Blot analysis (Epitope Ltd, Organon Teknica), done in Institute of Medical Research, Kuala Lumpur (IMRKL), was positive for anti-HIV-1.

He is presently asymptomatic with serum creatinine level of 0.12 mmol/litre (normal).

His 52 year old wife was tested for HIV after counselling; she was both ELISA and Western Blot positive for anti-HIV-1, using the tests above. She had no risk factors except sexual contact with the patient.

Case Report 2

A 33 year old single woman had systemic lupus erythematosus on follow-up in a private hospital in Singapore since 1985. Four years later she developed end stage renal failure. She received hemodialysis in Singapore and was transfused 4 pints of blood in January 1990. These had been screened and were negative for anti-HIV-1 by ELISA (Abbott HIV-1). The patient's anti-HIV-1 status tested by ELISA (Abbott HIV-1) was also negative.

In February 1990, she went to Bombay, India, and a living unrelated donor renal transplant was done, subsequently followed-up in HSAJB.

Two months post-transplant the complement fixation test for cytomegalovirus (CMV) done in IMRKL showed a titre of 1 in 32 and CMV IgM was negative.

Four months post-transplant she developed an acute febrile illness with cough for 2 days. The chest X-ray showed diffuse shadowing in both lung fields. Within 1 day of admission she became cyanosed and tachypnoeic in type I respiratory failure. The relatives then sent her to a private hospital in Singapore for further management.

She reappeared a year later with a letter stating that she had developed *Pneumocystis carinii* pneumonia in June 1990. This was proven on transbronchial biopsy. The pneumonia had responded to intravenous cotrimoxazole. The IgM titre for CMV was raised at that time; urine and saliva grew CMV. No specific treatment was given for this probable reactivation of CMV infection.

She was tested for anti-HIV-1: both ELISA (Wellcozyme HIV-1) and Western Blot (Epitope Ltd, Organon Teknica) were positive.

This patient fulfills the WHO/CDC (World Health Organisation/Centre of Disease Control) criteria for AIDS-Group IVC with positive anti-HIV test and *Pneumocystis carinii* pneumonia.

She was then asymptomatic with a raised serum creatinine of 0.25 mmol/litre. The total lymphocyte count was low ($0.24 \times 10^9/1$) and the CD4 lymphocyte count was $0.002 \times 10^9/1$.

In the last 3 months of life she developed severe weight loss (15% body weight), fatigue, oral candidiasis and anaemia. She died 2 and a half years post-transplant at home.

Case Report 3

A 47 year old woman developed end stage renal failure in 1987 and was hemodialysed as well as given 10 pints of blood in a private centre in Johor Baru. The blood was negative for anti-HIV-1 on screening by ELISA (Abbott HIV-1). The patient's blood was not tested for anti-HIV then.

In July 1989, she had a living unrelated donor renal transplant in Madras, India, and was transfused 2 pints of blood. She was subsequently followed-up in HSAJB.

Six months post-transplant, she developed fever and vomiting. The Hepatitis B surface Antigen (HBsAg), which was negative on presentation, became persistently positive 8 months post-transplant. Fourteen months post-transplant she developed a carbuncle on the neck.

ELISA (Wellcozyme HIV-1) and Western Blot (Epitope Ltd, Organon Teknica) for anti-HIV-1 was positive on testing in November 1991.

She is asymptomatic with normal renal function.

Case Report 4

A 50 year old man who developed end stage renal failure in June 1990 had peritoneal dialysis done in Kuala Lumpur General Hospital (KLGH). No anti-HIV test was done then.

In October 1990, he was taken to Madras, India, whereby 10 hemodialyses were performed, with a living unrelated donor renal transplant done 2 months later.

On returning to Malaysia, he developed acute rejection with *Plasmodium vivax* malaria. These were treated and he was well for 10 months, when he became febrile with jaundice. The HBsAg (which was negative on presentation) became persistently positive. The Hepatitis C antibody was also positive by ELISA (Abbott, second generation anti-HCV).

The ELISA for anti-HIV-1 (Wellcozyme HIV-1) was positive and so was the Western Blot (Epitope Ltd, Organon Teknica).

He is presently well with normal renal function.

Discussion

Living unrelated donor renal transplantation done purely for monetary gain is condemned by the Transplantation Society[2,3]. The Society states that normal safeguards for donors are threatened and even an unacceptable donor is accepted with a high enough price paid. The practice is illegal in many countries, e.g., United Kingdom, Canada, USA, Kuwait. It is also morally and ethically unsound, although this has been challenged by some[4]. Reddy *et al* from India have likened it to "buying a life"; they argue that payment of money does not make the act unethical.

In the 4 patients described, it is probable that HIV-1 was caught from blood transfusion in India or from the renal transplant itself. By 1987, blood transfused in Malaysia and Singapore was being routinely tested for anti-HIV-1. None of the patients had risk factors like drug abuse, homosexuality or promiscuity. Blood in Bombay is not screened for HIV[5] and HIV is epidemic there[1]. Moreover, HIV-1 infection can be transmitted by a kidney graft even when the donor tests negative for antibody[6].

Therefore, patients with living unrelated donor renal transplants done abroad on a commercial basis are a high risk group for HIV infection and it is advisable to screen all such patients.

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