

[beta coefficient 2.25 (0.95–5.30);  $P = 0.06$ ] and iPTH  $\geq 65$  pg/mL prior to transplantation [beta coefficient 11.48 (4.79–27.53);  $P < 0.001$ ] as independent variables predicting iPTH  $\geq 65$  pg/mL at follow-up (model  $\chi^2 = 46.56$ ;  $P < 0.001$ ). The limited available literature suggests that the risk of persistent SHPT post-transplantation is associated with high serum levels of calcium and phosphorus prior to transplantation and sub-optimal graft function post-transplantation [1]. However, when we repeated our multivariable analyses including pre-transplantation serum calcium and phosphorus, the results did not change. Some investigators suggested that 25% [2] to 50% [3] of transplant recipients demonstrate elevated iPTH long term, although our data would suggest a much higher incidence. Potential explanations include adenomatous transformation of parathyroid nodules that may be only partially reversible, reduced intestinal absorption of calcium induced by steroid therapy and persistent relative vitamin D deficiency. Despite the known dissociation between iPTH levels and bone histology, early intervention to reduce the incidence of SHPT in post-transplantation with vitamin D receptor activators or calcimimetics may be very important to reduce the incidence of osteoporotic fractures and vasculopathy in these patients [4].

*Conflict of interest statement.* Dr. E. Rojas is supported by a training grant from Genzyme Therapeutics; Dr. Paolo Raggi has received research grants from and he is part of a Medical Advisory Board for Genzyme Therapeutics.

<sup>1</sup>Division of Nephrology  
Guadalajara University  
Jalisco, Mexico  
<sup>2</sup>Department of Medicine  
Emory University Atlanta  
GA, USA  
E-mail: praggi@emory.edu

Enrique  
Rojas-Campos<sup>1,2</sup>  
Francesca  
Cardarelli<sup>2</sup>  
Paolo Raggi<sup>2</sup>

1. Evenepoel P, Claes K, Kuypers D *et al.* Natural history of parathyroid function and calcium metabolism after kidney transplantation: a single-centre study. *Nephrol Dial Transplant* 2004; 19: 1281–1287
2. Reinhardt W, Bartelworth H, Jockenhovel F *et al.* Sequential changes of biochemical bone parameters after kidney transplantation. *Nephrol Dial Transplant* 1998; 13: 436–442
3. Lobo PI, Cortez MS, Stevenson W *et al.* Normocalcemic hyperparathyroidism associated with relatively low 1:25 vitamin D levels post-renal transplant can be successfully treated with oral calcitriol. *Clin Transplant* 1995; 9: 277–281
4. Palmer SC, Strippoli GF, McGregor DO. Interventions for preventing bone disease in kidney transplant recipients: a systematic review of randomized controlled trials. *Am J Kidney Dis* 2005; 45:638–649

doi: 10.1093/ndtplus/sfn172

Advance Access publication 4 December 2008

### Confirming high prevalence of human herpesvirus 8 infection in chronic kidney disease patients in São Paulo, Brazil

Sir,  
Human herpesvirus 8 (HHV-8) is frequently associated with Kaposi's sarcoma. It can be transmitted through organ trans-

plantation or reactivated by immunosuppressive therapy. Chronic kidney disease (CKD) patients are at risk of this infection [1]. The present study aimed to determine the seroprevalence of HHV-8 in CKD patients in São Paulo, Brazil. The study was approved by the research ethics committees at participating institutions.

Blood samples collected from 805 CKD patients attended Hospital do Rim e Hipertensão and/or Santa Casa de Misericórdia de São Paulo (São Paulo, Brazil) were tested for latent and lytic HHV-8-specific antibodies using indirect immunofluorescence assays at Instituto Adolfo Lutz in São Paulo, Brazil, as previously described [2]. The chi-square test and/or Fisher's exact test were performed for comparing categorical variables and HHV-8 serum status, using SPSS for Windows. Of the 805 CKD patients, 61.4% were males, 61.5% white, 35.5% black/pardum and 3.0% yellow. The mean age was 58 years (18–91). Two hundred ninety-five patients were on haemodialysis (HD), 54 on peritoneal dialysis (PD) and 456 not yet on renal replacement therapy (RRT).

One hundred forty-five (18.0%) CKD patients were found HHV-8-seropositive, of whom 56 (18.9%) were on HD, 8 (14.8%) on PD and the remaining 81 (17.7%) were not on any RRT. Examination of these different groups revealed no statistical significant differences ( $P = 0.963$ ). Further statistical analyses were conducted without this subgrouping by RRT received. Table 1 discloses the comparison between HHV-8-seronegative and HHV-8-seropositive groups. Patients HHV-8-seropositive had a higher prevalence of previous transplant as well as higher prior exposure to sexually transmitted diseases. Of note, 57.0% of CKD patients who had syphilis also had HHV-8-seropositivity ( $P = 0.021$ ). Other variables showed lack of association with HHV-8 serological results.

High HHV-8 seroprevalence was observed in CKD patients in São Paulo, Brazil [3]. Interestingly, in the present study, similar proportions of HHV-8-seropositivity were observed in pre-dialysis and dialysis patients suggesting that dialysis proceedings were not related to HHV-8 transmission/acquisition. Another result was the strong association between HHV-8-seropositivity and previous transplant presenting another route of viral transmission as previously reported [4]. The association between HHV-8-seropositivity and syphilis could suggest that the syphilis lesions facilitate the entrance of the virus during sexual intercourse.

Finally, several studies conducted worldwide have attempted to find the best immunosuppressive therapy for use with HHV-8-seropositive transplant recipients [5]. It is not yet defined, but it is certain that these patients need an appropriated attendance to avoid iatrogenic KS and organ rejection, giving them perhaps a better quality of life after transplant. Therefore, due to the high HHV-8 seroprevalence found in the present study and the seriousness of the HHV-8-associated diseases, the authors suggest that screening for HHV-8 must be performed in CKD patients, even those in pre-dialysis.

*Acknowledgements.* This work was supported by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brazil, fellowship to ACA (PD #304372/2006-4) and to MCM. We thank Drs Pedro Jabur, Ivoty Sens and José Ferraz Souza from Santa Casa de Misericórdia de São Paulo for data collection, and Drs Sílvia R S Moreira and Sílvia Manfredi from UNIFESP for samples collection.

**Table 1.** Comparison between HHV-8-seronegative and HHV-8-seropositive groups

	HHV-8 seronegative	HHV-8 seropositive	P-value
Age ( <i>n</i> = 805)	56.6 ± 16.5	59.3 ± 17.8	0.075
Gender ( <i>n</i> = 805)			0.574
Male	408 (61.8%)	86 (59.3%)	
Colour/race ( <i>n</i> = 805)			0.798
White	407 (61.7%)	88 (60.7%)	
Pardum	129 (19.1%)	30 (20.7%)	
Black	106 (16.1%)	21 (14.5%)	
Yellow	18 (2.7%)	6 (4.1%)	
Type of dialysis ( <i>n</i> = 349)			0.748
Haemodialysis	239 (36.2%)	56 (38.6%)	
Peritoneal dialysis	46 (7.0%)	8 (5.5%)	
Immunosuppressive therapy ( <i>n</i> = 803)			0.952
Yes	31 (4.7%)	7 (4.8%)	
Blood transfusion ( <i>n</i> = 793)			0.385
None	374 (57.5%)	80 (55.9%)	
One	126 (19.4%)	23 (16.1%)	
Many	150 (23.1%)	40 (28.0%)	
Transplantation ( <i>n</i> = 805)			>0.0001
None	629 (95.3%)	124 (85.5%)	
Kidney	27 (4.1%)	20 (13.8%)	
Others	4 (0.6%)	1 (0.7%)	
Sexuality ( <i>n</i> = 717)			0.086
Heterosexual	588 (99.5%)	123 (97.6%)	
Homosexual	3 (0.5%)	2 (1.6%)	
Bisexual	0 (0.0%)	1 (0.8%)	
Personal antecedents ( <i>n</i> = 723)			0.484
Yes	565 (95.0%)	124 (96.9%)	
HIV ( <i>n</i> = 723)			0.096
Yes	6 (1.0%)	4 (3.1%)	
STDs ( <i>n</i> = 710)			0.003
Yes	10 (1.7%)	8 (6.4%)	

Personal antecedents: use of intravenous drugs, use of condom, cytomegalovirus and hepatitis; STDs: sexually transmitted diseases; *n*: number.

*Conflict of interest statement.* None declared.

<sup>1</sup>Department of Immunology  
Instituto Adolfo Lutz  
<sup>2</sup>Faculdade de Ciências  
Farmacêuticas—USP  
<sup>3</sup>Fundação Oswaldo  
Ramos—UNIFESP  
<sup>4</sup>Hospital do Rim e  
Hipertensão—UNIFESP, São  
Paulo, Brazil  
E-mail: caterino@usp.br  
caterino@ial.sp.gov.br

Mariana C.  
Magri<sup>1,2</sup>  
Maria E. F.  
Canziani<sup>3</sup>  
Sergio A. Draibe<sup>4</sup>  
Elizabeth  
Santos-Fortuna<sup>1</sup>  
Adele Caterino-  
de-Araujo<sup>1,2</sup>

5. Stallone G, Schena A, Infante B *et al.* Sirolimus for Kaposi's sarcoma in renal transplant recipients. *N Engl J Med* 2005; 352: 1317–1323

doi: 10.1093/ndtplus/sfn189

Advance Access publication 9 December 2008

### Extended haemodialysis hours may improve the clinical outcome of patients on maintenance haemodialysis without increasing the cost

Sir,

The incidence of severe chronic kidney disease is rising worldwide, and the poor nations suffer more. Haemodialysis is the predominant form of renal replacement therapy in our environment and is still very expensive and hardly available to the majority of those who need it. At present the few patients who commence dialysis in Nigeria do not achieve adequate dialysis because of paucity of funds to sustain the treatment. The result is progressive deterioration in their clinical situation [1]. Recent reports suggest that a more frequent haemodialysis strategy might be expected to increase life expectancy by between 2 and 24 months depending on the frequency (four, five or six times per week). However, more frequent haemodialysis is much more expensive [2]. In Europe and America, more

1. Farge D, Lebbé C, Marjanovic, Z *et al.* Human herpes virus-8 and other risk factors for Kaposi's sarcoma in kidney transplant recipients. *Transplantation* 1999; 67: 1236–1242
2. Caterino-de-Araujo A, Santos-Fortuna E, Carbone PHL *et al.* Human herpesvirus 8 (HHV-8) antibodies among women from São Paulo, Brazil. Association with behavioral factors and Kaposi's sarcoma. *Braz J Infect Dis* 2003; 7: 395–401
3. Caterino-de-Araujo A, Magri MC, Santos-Fortuna E *et al.* Human herpesvirus 8 infection in hemodialysis patients from São Paulo, Brazil: preliminary results. *Transplant Proc* 2007; 39: 3044–3046
4. Andreoni M, Goletti D, Pezzotti P *et al.* Prevalence, incidence and correlates of HHV-8/KSHV infection and Kaposi's sarcoma in renal and liver transplant recipients. *J Infect* 2001; 43: 195–199