Table 1. Odds ratio and corresponding 95% confidence intervals of multiple myeloma by hepatitis C virus (HCV) infection.

	HCV infection			OR	95% CI	p
	Positive n (%)		Negative n	Total		
All						
Controls	11	(9)	109	120	1*	
MM	13	(32)	28	41	4.3°	1.8–11.0	0.001
Total	24	(15)	137	161		
Male						
Controls	6	(13)	41	47	1*	
MM	7	(30)	16	23	2.4	0.7–8.4	0.1
Total	13	(18)	57	70		
Female						
Controls	5	(7)	68	73	1*	
MM	6	(33)	12	18	7.6	2.0–30.6	0.004
Total	11	(12)	80	91		
≤ 55						
Controls	5	(10)	43	48	1*	
MM	1	(12)	7	8	1.2	0.1 – 12.1	0.8
Total	6	(11)	50	56		
> 55						
Controls	6	(8)	66	72	1*	
MM	12	(36)	21	33	5.6	2.0 – 17.2	0.002
Total	18	(17)	87	105		

*MM: multiple myeloma; *reference category; °derived from unconditional mutliple regression equations including terms for sex and age and marital status.*

thyroid cancer and multiple myeloma although for myeloma these data have been less evident.[1,9,10] Our study strengthens the evidence of a correlation between HCV and lymphoproliferative disorders, but the role of HCV needs to be confirmed by both molecular biology and extensive epidemiologic studies.

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Kaposi's sarcoma after allogeneic bone marrow transplantation in a child

Kaposi's sarcoma (KS) has been increasingly diagnosed in patients who receive immunosuppressive treatment for organ transplantation.[1-4] Furthermore, four cases of KS in patients undergoing bone marrow transplantation (BMT) have been reported.[5-8] Herein we report a case of KS after allogeneic BMT in a child in whom an active infection by HHV-8, a Kaposi's sarcoma-associated herpes virus, was demonstrated.

Sir,

A 7-year old black girl with a severe form of sickle cell disease underwent allogeneic BMT from an HLA identical brother. She had received multiple transfusions. Serologic titers were positive for CMV and negative for HIV, herpes virus and EBV. The donor was also negative for HIV. Conditioning included busulfan, total dose 16 mg/kg, and cyclophosphamide, total dose 200 mg/kg. She received cyclosporin A (CsA) 3 mg/kg daily from day –1 for prevention of GVHD. On day +115, with an absolute neutrophil count > 1,000/µL, she developed extensive chronic GVHD with skin, mucosae and liver involvement. She did not respond to methylprednisolone 2 mg/kg daily and CsA 13 mg/kg, and antithymocyte globulin (45 mg/kg total dose) was added to the treatment. The patient showed a mild improvement after another course of the same regimen. On day +330, purple lesions in skin, hypertrophy of oral and tongue

mucosae with gross cervical lymphadenopathy appeared. These new lesions caused upper airway obstruction with respiratory distress that required a tracheotomy and hemiglossectomy. Biopsies of skin and mucosae confirmed Kaposi's sarcoma. Serum immunofluorescence assay showed a high anti-human herpes virus-8 (HHV-8) IgG titer (1:2,560), which demonstrated recent or active HHV-8 infection.[8] Genomic DNA was prepared from sections of paraffin-embedded blocks of the lesion. HHV-8 detection was performed by polymerase chain reaction (PCR) using primers KS1 and KS2.[9] An amplification product of 233 bp was obtained in samples, indicating the presence of HHV-8 virus in neoplastic tissue. Immunosuppressive therapy was discontinued on day + 479, but the lesions did not remit. The patient died from massive lung hemorrhage on day +486. Permission for *post mortem* examination was denied, and the cause of the lung hemorrhage could not be determined.

KS has a negligible incidence in the general population, but has been observed in up to 6% of patients undergoing organ transplantation. Moreover, the incidence of KS is higher in patients treated with CsA and some authors have suggested that this association might reflect a state of overimmunosuppression rather than a specific effect of the molecule.[1-4] Some studies have found DNA sequences of viral agents in tissue samples of KS and suggest the existence of a new herpesvirus, the human herpesvirus-8 or Kaposi's sarcoma-associated herpesvirus.[4,6,9,10] The high anti-HHV-8 IgG titer and the presence of HHV-8 virus in neoplastic tissue of our patient demonstrated recent or active HHV-8 infection.

In our view, prolonged therapy with CsA and other immunosuppressive drugs and the immune deficiency associated with severe chronic GVHD may have predisposed to the development of KS in the case described here.

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Key words

Kaposi's sarcoma, sickle cell disease, bone marrow transplantation, graft-vs-host disease, immunosuppression.

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Platelet cryopreservation using second-messenger effectors and low-dose (2%) dimethyl sulfoxide. *In vitro* evaluation of post-thawing platelet activity with the platelet function analyzer

Second-messenger effectors (ThromboSol®), together with low-dose dimethyl sulfoxide (DMSO) (2%), are described as a new cryopreservation solution. The solution allows high yield recovery of cryopreserved platelets with a residual platelet function equal or superior to that of 6% DMSO-cryopreserved platelets. The hemostatic function of cryopreserved platelets was measured by PFA-100™.

Sir,

At present, 5-6% DMSO is considered the most effective cryopreserving agent in terms of cell yield and residual function of recovered platelets.[1] Recently, second messenger effectors (ThromboSol®) (TC) have been used combined with low-dose (2%) DMSO, to cryopreserve platelet concentrates at –80°C for clinical use.[2-4] The aim of the present work was to compare the yield and function of platelets frozen with either 6% DMSO or TC-2% DMSO.

An intriguing problem is the *in vitro* measurement of objective parameters capable of predicting the *in vivo* hemostatic function of the recovered platelets. Mimicking physiologic platelet-subendothelial interactions, the platelet function analyzer (PFA100™) measures *in vitro* closure time, a surrogate index of *in vivo* bleeding time.[5-8] Having previously developed a procedure to use PFA100™ to assess platelet function in platelet concentrates,[9] we used this procedure to compare residual platelet function in concentrates frozen using the two protocols. Yield, morphology and adhesion capacity were evaluated altogether. Thawed platelets were evaluated prior to and following a single washing procedure to remove about 95% of the TC and DMSO. Platelets were obtained by buffy-coat frac-